



May 5, 2017

Mr. Perry Gaughan
On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4
61 Forsyth Street, SW
Atlanta, Georgia 30303

Subject: Removal Assessment Letter Report - Final
Patterson Street Solvent Plume
Greensboro, Guilford County, North Carolina
Contract Number: EP-S4-14-03
TDD Number: TT-02-025

Dear Mr. Gaughan:

The Tetra Tech, Inc. (Tetra Tech) Superfund Technical Assessment and Response Team (START) submits this report summarizing the removal assessment conducted between October 17 and October 20, 2016, at the Patterson Street Solvent Plume site in Greensboro, Guilford County, North Carolina. This report includes six enclosures and one attachment. Enclosure 1 contains figures and Enclosure 2 contains a summary of analytical results. Enclosure 3 contains a photographic log of the assessment activities. Enclosure 4 contains a copy of the Tetra Tech START logbook notes and field sheets. Enclosure 5 contains a table of witnesses. Enclosure 6 contains the Tetra Tech data validation report. Attachment 1 contains the laboratory data package.

BACKGROUND

As part of a multi-site investigation, the North Carolina Department of Environmental Quality (NCDEQ), through its Inactive Hazardous Sites Branch (IHSB) contractor, S&ME, conducted a multimedia assessment south of Patterson Street, around South Holden Road in Greensboro, North Carolina (see Figure 1 in Enclosure 1). The multi-site assessment was part of an effort by NCDEQ to examine old IHSB sites with the potential for vapor intrusion issues. Numerous past investigations have identified chlorinated solvents in the groundwater in the area and in the unnamed tributary of South Buffalo Creek, which flows southward along the eastern side of the neighborhood (see Figure 2 in Enclosure 1). Numerous former and current industrial properties located along Patterson Street have been identified as potential sources.

In February 2016, S&ME advanced borings along a 4,800-foot, east/west transect south of, and parallel to, Patterson Street. Eight sampling stations were established along the transect, and groundwater and soil gas samples were collected at each station. (Groundwater was too shallow to allow collection of a soil gas sample at the two easternmost stations.)

Tetrachloroethene (PCE) and trichloroethene (TCE) were detected in both the soil gas sample and the groundwater sample at station #4 at levels exceeding applicable state guidance values. Sampling station #4 was located at a residence at 2838 Camborne Street. Subsequent indoor air and crawl space sampling conducted by S&ME confirmed elevated PCE and TCE levels in residences in the area.

Based on these findings, NCDEQ requested that the U.S. Environmental Protection Agency (EPA) Region 4 conduct a removal assessment at the Patterson Street Solvent (PSS) Site to assess the risk of chlorinated solvents to residences in the area.

REMOVAL ASSESSMENT ACTIVITIES

Based on SM&E's findings, NCDEQ and EPA concluded that a removal assessment was warranted. The purpose of the assessment was to determine whether conditions were present that required a removal action. EPA tasked Tetra Tech START with conducting the assessment, including sampling groundwater, crawl space air, exterior soil gas, and surface water from the unnamed tributary of Buffalo Creek.

Groundwater Sampling

Tetra Tech collected groundwater samples from four permanent monitoring wells located upgradient of the area of concern (see Figure 4 in Enclosure 1). These wells were installed as part of an ongoing investigation of the former Ashland facility located at the corner of Patterson Street and South Holden Road. EPA secured permission to access the wells prior to sampling. Samples were collected with a peristaltic pump and analyzed for volatile organic compounds (VOCs) by EPA SW-846 Method 8260B. Tetra Tech collected one duplicate sample and one matrix spike/matrix spike duplicate (MS/MSD).

All groundwater sampling was conducted in accordance with EPA Region 4 Science and Ecosystem Support Division (SESD) Field Branch Quality Systems and Technical Procedures (FBQSTP) *Groundwater Sampling*, March 2013. Enclosure 4 contains sample collection field sheets for the groundwater samples.

Crawl Space Air Sampling

EPA gained access to six residences to collect crawl space air samples: 2832 Camborne Street, 2834 Camborne Street, 2836 Camborne Street, 1405 Swan Street, 1406 Swan Street, and 1407 Swan Street (see Figure 3 in Enclosure 1). Prior to initiating the crawl space air sampling, Tetra Tech reviewed the list of potential household sources found on the NCDEQ *Indoor Air Building Survey and Sampling Form* with each resident. All listed household products present within the residence were sealed in a plastic bag 12 hours before sampling.

Tetra Tech collected crawl space air samples in individually-certified, 6-liter stainless steel Summa canisters with 24-hour flow controllers. All crawl space air samples were analyzed for VOCs by EPA Method TO-15. Tetra Tech collected one duplicate sample at 2834 Camborne Street and then collected an additional sample there on a different day (PSS-CS-2834CAM-REPEAT) to assess temporal variability. It should be noted that NCDEQ does not recognize any attenuation between crawl space air and indoor air¹.

Tetra Tech collected two ambient air samples from the property fence line on the north side of 2836 Camborne Street during crawl space air sampling to serve as a background samples.

¹ North Carolina Department of Environmental Quality, Division of Waste Management. "Vapor Intrusion Guidance." April 2014, page 22.



All crawl space air sampling was conducted in accordance with EPA Office of Solid Waste and Emergency Response (OSWER) *OSWER Technical Guide for Assessing the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air*, June 2015.

Soil Gas Sampling

Tetra Tech collected soil gas samples from three locations around the site: at the southwest corner of 2836 Camborne Street by the roadside ditch (PSS-SG-2836CAM); in the right-of-way east of 2828 Camborne Street by the ditch (PSS-SG-DITCH); and from the northwestern corner of 1407 Swan Street (PSS-SG-1407SWAN) (see Figure 3 in Enclosure 1). Soil gas samples were obtained through the use of hollow rods driven into the ground with a rotary hammer to depths ranging from 3 to 4 feet below ground surface. The rods contained a retractable screened tip attached to disposable Teflon-lined tubing that ran up through the hollow rods and attached to 1-liter stainless steel Summa canisters with a 5-minute flow controller. To obtain a sample, the rod assembly was driven to the desired depth and then retracted 2 inches to expose the screened portion. The tubing was then purged of no less than five times the interior volume of the tubing prior to sampling.

Soil gas samples were analyzed for VOCs by EPA SW-846 TO-15. Tetra Tech also collected one split sample (PSS-SG-2836CAM-SPLIT) from the 2836 Camborne Street location.

All soil gas sampling was conducted in accordance with EPA Region 4 SESD FBQSTP *Soil Gas Sampling*, May 2014. Enclosure 4 contains sample collection field sheets for the soil gas samples.

Surface Water Sampling

Tetra Tech collected surface water samples from six locations along the tributaries of Buffalo Creek (see Figure 4 in Enclosure 1). Samples were analyzed for VOCs by EPA SW-846 Method 8260B. Tetra Tech collected one duplicate sample and one MS/MSD.

All surface water sampling was conducted in accordance with EPA Region 4 SESD FBQSTP *Surface Water Sampling*, February 2013.

ANALYTICAL RESULTS

Tetra Tech submitted groundwater and surface water samples via FedEx courier to Shealy Environmental Services, Inc. (Shealy) in West Columbia, South Carolina. Crawl space air and soil gas samples were submitted to ALS Environmental, a Shealy subcontract laboratory, also by FedEx courier.

Tetra Tech START performed a Level 2A data validation review (see Enclosure 6) of the data to assess data quality and completeness. Analytical results were then compared with the compound-specific target concentrations provided in the EPA Vapor Intrusion Screening Level (VISL) Calculator Version 3.4 for groundwater (groundwater samples), indoor air (crawl space air samples), and exterior soil gas (soil gas samples). Surface water results were compared with North Carolina 15A North Carolina Administrative Code (NCAC) 02B surface water standards for human health.

A complete summary of contaminant detections is provided in Tables 1 through 5 of Enclosure 2. The laboratory data package is provided in Attachment 1. Tetra Tech START's data validation report is provided in Enclosure 6. The subsections below provide a brief summary of the analytical results, focusing on those analytes identified at concentrations exceeding the comparison criteria.



Groundwater Sampling Results

PCE was detected at levels exceeding the VISL for groundwater (15 micrograms per liter [$\mu\text{g}/\text{L}$]) in permanent monitoring wells MW-29S, MW-30, and MW-27S. TCE, a PCE degradation product, was detected at levels exceeding the VISL for groundwater ($1.3 \mu\text{g}/\text{L}$) in the same wells.

No other screening levels were exceeded in groundwater samples.

Crawl Space Air Sampling Results

PCE was detected above the VISL for indoor air (11 micrograms for cubic meter [$\mu\text{g}/\text{m}^3$]), which is equivalent to the EPA Regional Screening Level (RSL) for residential air, at 2832 Camborne Street ($16 \mu\text{g}/\text{m}^3$). PCE was detected in three of the other five crawl spaces, but not at levels above the VISL. PCE was also detected in the second of the two ambient air samples collected during the field event (PSS-CS-2836CAM-FENCE2) at $1.0 \mu\text{g}/\text{m}^3$.

TCE was detected above the VISL for indoor air ($0.48 \mu\text{g}/\text{m}^3$), which is equivalent to the EPA RSL for residential air, in four of the six crawl spaces: 2832 Camborne Street, 2834 Camborne Street, 1405 Swan Street, and 1407 Swan Street. The highest TCE concentration was $6.6 \mu\text{g}/\text{m}^3$ in the sample collected from 2832 Camborne Street. TCE was also detected in the second ambient air sample collected during the field event (PSS-CS-2836CAM-FENCE2) at $0.73 \mu\text{g}/\text{m}^3$.

Three chemicals typically associated with petroleum products were detected in crawlspace air samples at levels exceeding their VISLs, which are equivalent to the EPA RSLs for indoor air: benzene, ethylbenzene, and naphthalene. Benzene was detected in all crawl space and ambient air samples at concentrations exceeding the VISL of $0.36 \mu\text{g}/\text{m}^3$. The highest benzene concentration detected was $2.5 \mu\text{g}/\text{m}^3$, collected from the crawl space of 1406 Swan Street. Ethylbenzene ($3.3 \mu\text{g}/\text{m}^3$) and naphthalene ($1.4 \mu\text{g}/\text{m}^3$) were also detected above their VISLs at 1406 Swan Street.

Chloroform was also detected above the VISL of $0.13 \mu\text{g}/\text{m}^3$ for indoor air in 1406 Swan Street ($1.5 \mu\text{g}/\text{m}^3$) and 1407 Swan Street ($2.3 \mu\text{g}/\text{m}^3$).

No other RSLs were exceeded in crawl space air samples.

Tetra Tech consulted with EPA Region 4's Scientific Support Section (R4SSS) to determine if any of the crawl space air samples exceeded Removal Management Levels (RMLs). The TCE concentration of $6.6 \mu\text{g}/\text{m}^3$ in sample PSS-CS-2832CAM exceeds both the R4SSS RML of $2.1 \mu\text{g}/\text{m}^3$ for sensitive populations and $6.3 \mu\text{g}/\text{m}^3$ for non-sensitive populations. No other R4SSS RMLs were exceeded.

Soil Gas Sampling Results

Soil gas samples collected from 2836 Camborne Street contained five chemicals that exceeded their VISLs for exterior soil gas: chloroform was detected as high as $27 \mu\text{g}/\text{m}^3$, which exceeds the VISL of $4.1 \mu\text{g}/\text{m}^3$; 1,1-dichloroethane was detected as high as $260 \mu\text{g}/\text{m}^3$, which exceeds the VISL of $58 \mu\text{g}/\text{m}^3$; ethylbenzene was detected as high as $27 \mu\text{g}/\text{m}^3$, which exceeds the VISL of $37 \mu\text{g}/\text{m}^3$; PCE was detected as high as $3,500 \mu\text{g}/\text{m}^3$, which exceeds the VISL of $360 \mu\text{g}/\text{m}^3$; and TCE was detected at $180 \mu\text{g}/\text{m}^3$, which exceeds the VISL of $16 \mu\text{g}/\text{m}^3$.

No other screening levels were exceeded in soil gas samples.



Surface Water Sampling Results

PCE was detected at levels exceeding the 15A NCAC 02B Human Health Surface Water Standard of 3.3 µg/L at all surface water sampling locations. The highest PCE concentration detected was 410 µg/L in sample PSS-SW-01, collected from the ditch east of 2828 Camborne Street.

TCE was detected at levels exceeding the 15A NCAC standard of 3 µg/L in all surface water sampling locations, with the exception of SW-04, located farthest upstream along the unnamed tributary of Buffalo Creek. The highest TCE concentration detected was 530 µg/L, also in sample PSS-SW-01.

Vinyl chloride, a PCE degradation product, was also detected in sample PSS-SW-01 at 5.7 µg/L, which exceeds the NCAC standard of 2.4 µg/L.

No other 15A NCACs were exceeded in surface water samples.

SUMMARY

Tetra Tech has identified contamination in groundwater, crawl space air, soil gas, and surface water that exceeds EPA and NCDEQ comparison criteria. Further assessment activities are at the discretion of EPA.

If you have any questions or need additional copies of this report, please call me, John Snyder, at (678) 775-3085.

Sincerely,



John Snyder
Tetra Tech START IV Project Manager



Andrew F. Johnson
Tetra Tech START IV Program Manager

Enclosures (6)

Attachments (1)

cc: Katrina Jones, EPA Project Officer
 Angel Reed, Tetra Tech START IV Document Control Coordinator

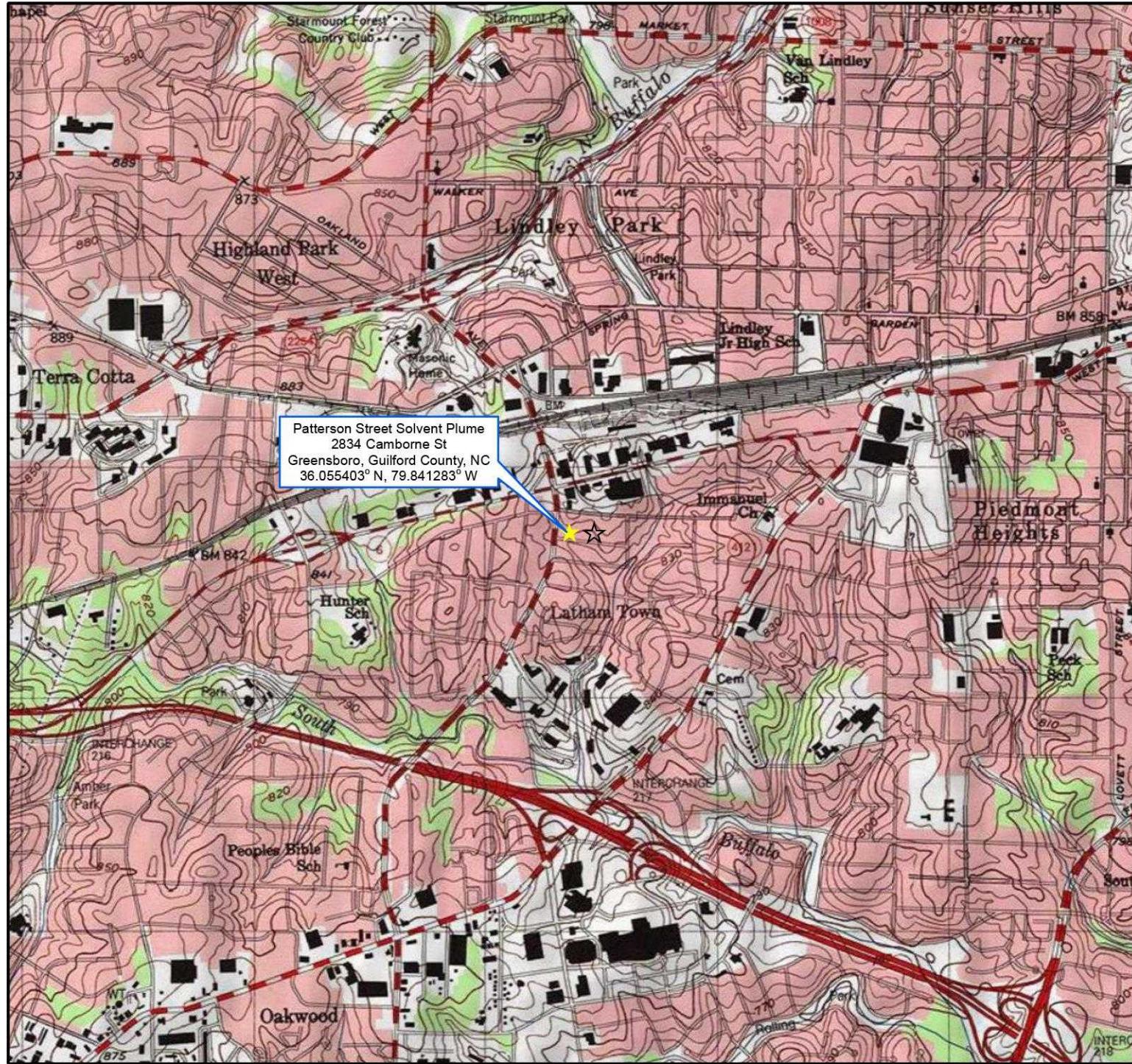


ENCLOSURE 1

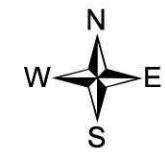
FIGURES

(Four Pages)





Legend
★ Site Location



0 1,000 2,000
Feet

FIGURE 1

Site Location

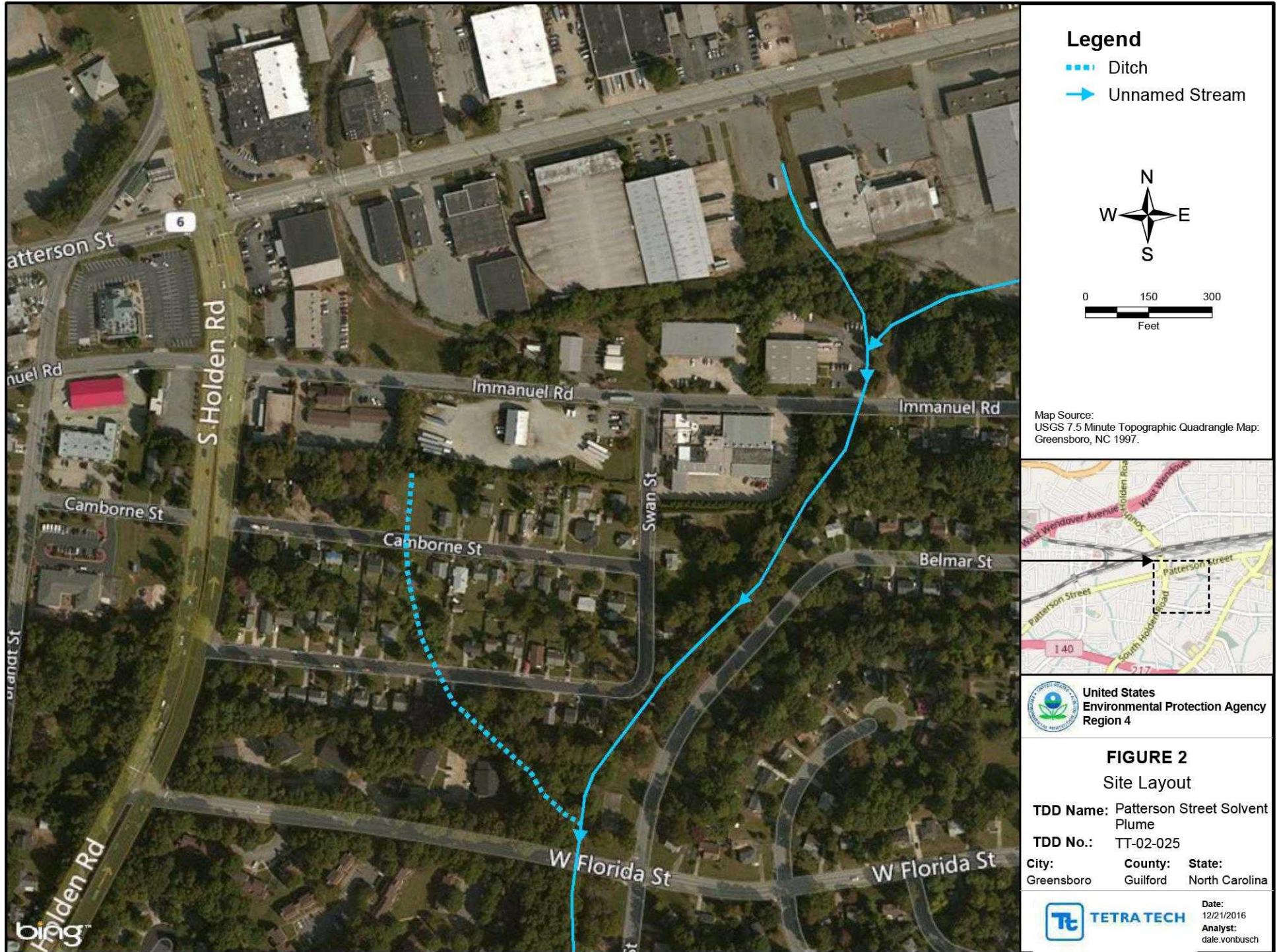
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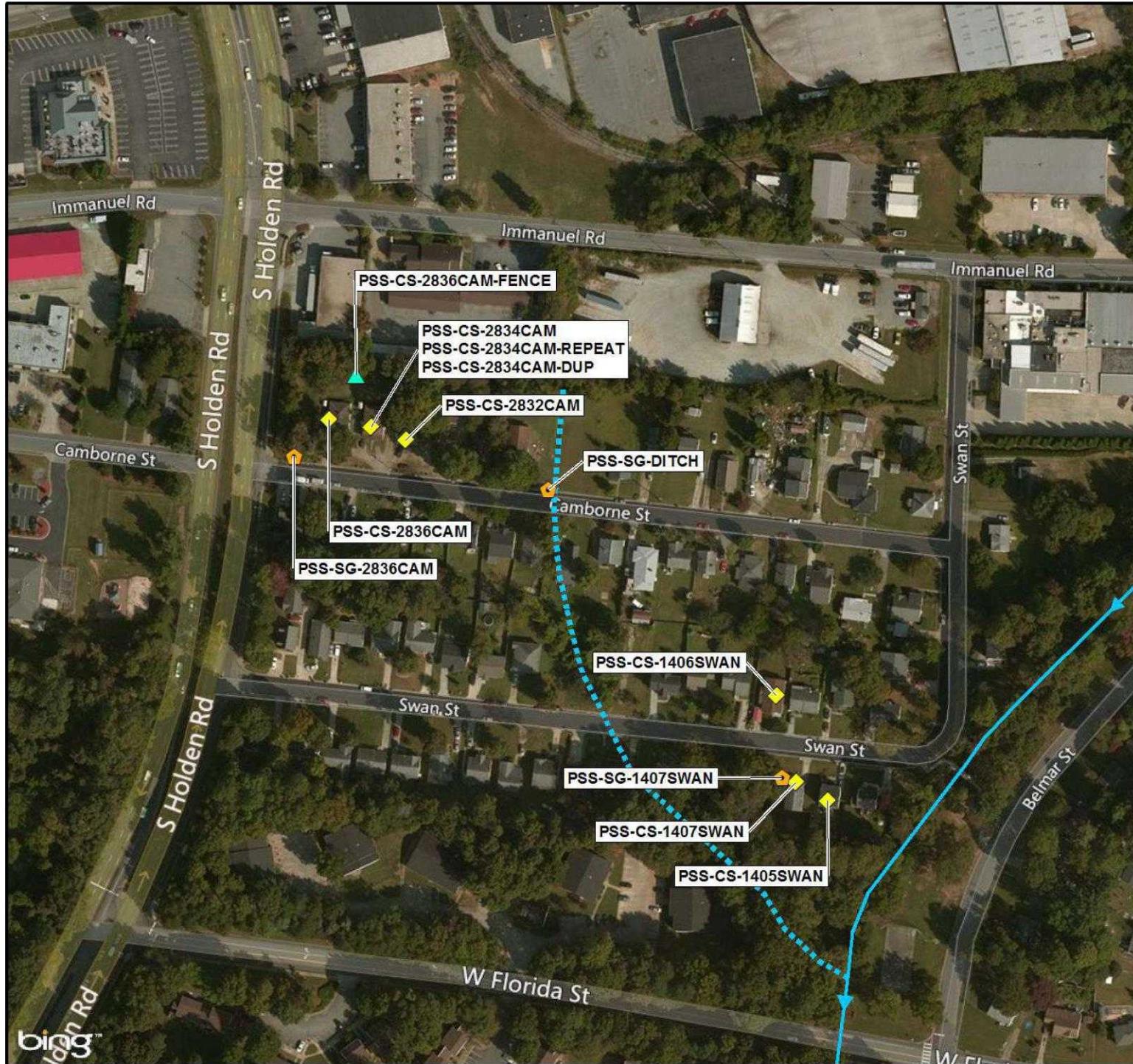
TDD No.: TT-02-025

City:	County:	State:
Greensboro	Guilford	North Carolina

TETRA TECH

Date:
 9/19/2016
 Analyst:
 dale.vonbusch





Legend

- ▲ Ambient Air Sample
- ◆ Crawl Space Sample
- ◆ Soil Gas Sample
- Ditch
- Unnamed Stream



0 100 200
Feet

Notes:
 CAM - Camborne St
 CS - Crawl Space
 PSS - Patterson Street Solvent
 SG - Soil Gas
 SWAN - Swan St

Map Source:
 Bing Maps Aerial Imagery, 2012.



United States
 Environmental Protection Agency
 Region 4

FIGURE 3

Crawl Space Air and
 Soil Gas Sample Locations

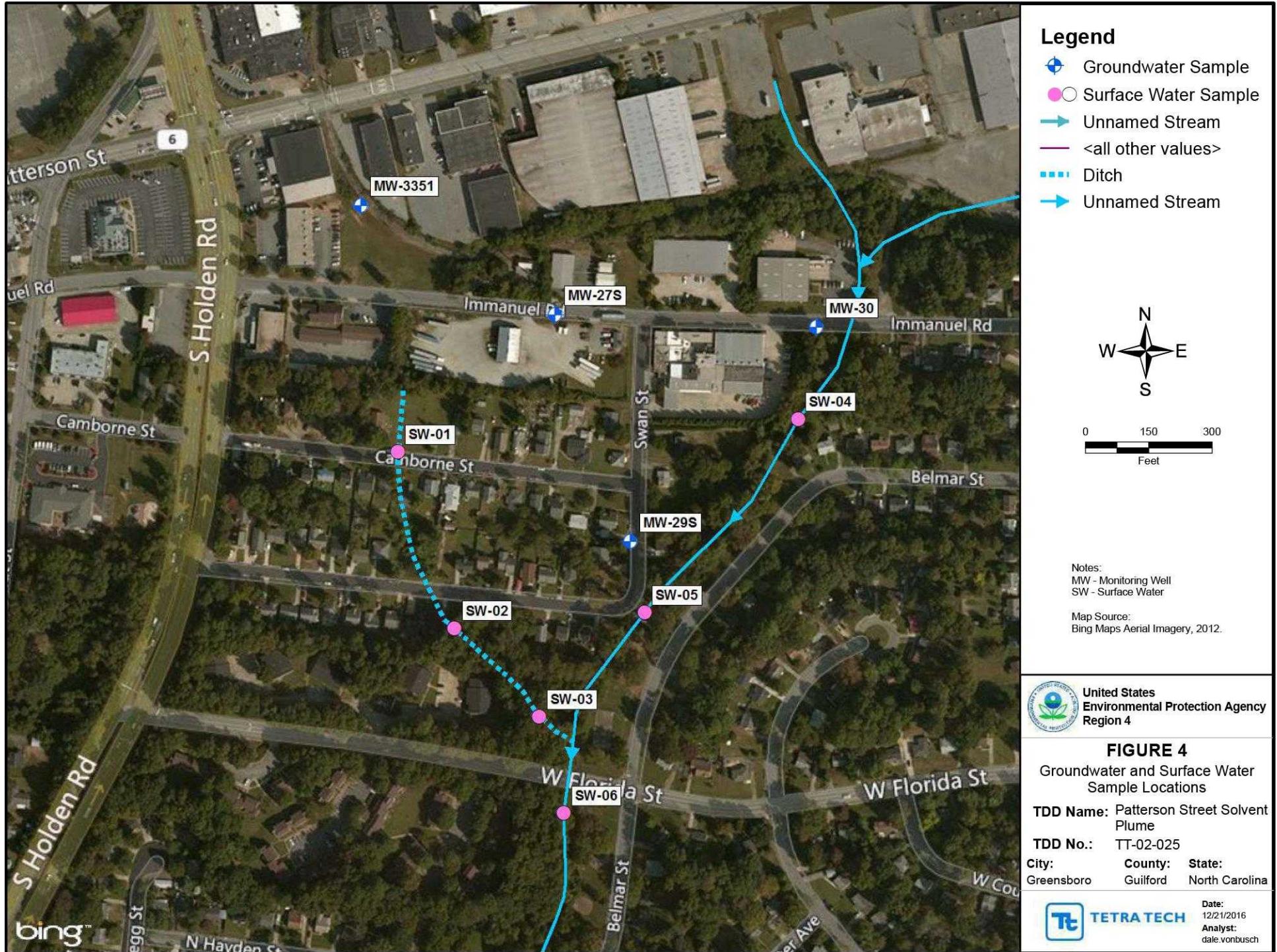
TDD Name: Patterson Street Solvent Plume

TDD No.: TT-02-025

City:	County:	State:
Greensboro	Guilford	North Carolina

Date:
 12/21/2016
 Analyst:
 dale.vonbusch

TETRA TECH



ENCLOSURE 2
SUMMARY OF ANALYTICAL RESULTS
(Five Pages)



TABLE 1
PATTERSON STREET SOLVENT PLUME
GROUNDWATER ANALYTICAL RESULTS

Analyte	EPA VISL Target Groundwater Concentration	PSS-MW-27S	PSS-MW-29S	PSS-MW-30	PSS-MW-3351	PSS-MW-3351- DUP
Volatile Organic Compounds (µg/L)						
1,1-Dichloroethane	7.6	10 U	1.6	0.5 U	0.5 U	0.5 U
1,1-Dichloroethene	210	69	4.4	1.4	0.5 U	0.5 U
cis-1,2-Dichloroethene	Not listed	66	20.0	0.43 J	0.5 U	0.5 U
1,4-Dioxane	2,900	400 U	31	20 U	20 U	20 U
Methyl tertiary butyl ether	450	10 U	0.5 U	0.8	0.5 U	0.5 U
Tetrachloroethylene	15	850	55	24 J+	0.5 U	0.5 U
Trichloroethylene	1.2	360	25.0	9.6	0.5 U	0.5 U
Trichlorofluoromethane	Not listed	10 U	0.7	0.5 U	0.5 U	0.5 U

Notes:

- DUP Duplicate sample
- EPA U.S. Environmental Protection Agency
- J The identification of the analyte is acceptable; however, the reported value is an estimate.
- J+ The identification of the analyte is acceptable; however, the reported value is an estimate, biased high.
- µg/L micrograms per liter
- MW Monitoring well (permanent)
- PSS Patterson Street Solvent Plume
- U The analyte was analyzed for, but was not detected at or above the reporting limit.
- VISL EPA Vapor Intrusion Screening Level Calculator Version 3.4, November 2015
- Bold** Bold values are chemical detections
- Shaded** Shaded values exceed the EPA Residential Groundwater-to-Vapor Intrusion Screening Level

TABLE 2
PATTERSON STREET SOLVENT PLUME
CRAWL SPACE AND AMBIENT AIR ANALYTICAL RESULTS

Analyte	EPA VISL Target Indoor Air Concentration	EPA Region 4 Scientific Support Section Removal Management Levels	PSS-CS- 2836CAM	PSS-CS- 2834CAM	PSS-CS- 2832CAM	PSS-CS- 2834CAM-DUP	PSS-CS- 1406SWAN
			Crawl space Air	Crawl space Air	Crawl space Air	Crawl space Air	Crawl space Air
Volatile Organic Compounds ($\mu\text{g}/\text{m}^3$)							
Acetone	32,500	96,000	8 U	15 J	9.3	7.9 J	19
Benzene	0.36	36	0.89	1.5	0.9	1.5	2.5
Chloroform	0.12	100	0.8 U	0.63 U	0.86 U	0.63 U	1.5
Cyclohexane	6,300	Not listed	1.6 U	1.3 U	1.7 U	1.3 U	1.9
Dichlorodifluoromethane	100	Not listed	2.5	2.4	2.6	2.6	2.5
1,1-Dichloroethene	210	630	0.8 U	1.3	29	1.2	0.74 U
Ethanol	Not listed	Not listed	8 U	7.7	8.6 U	9.5	18
Ethyl Acetate	73	Not listed	1.6 U	1.8	2.2	2	2.7
Ethylbenzene	1.10	110	0.8 U	0.97	0.86 U	1	3.3
4-Ethyltoluene	Not listed	Not listed	0.8 U	0.63 U	0.86 U	0.63 U	1.5
n-Heptane	Not listed	Not listed	0.89	1.3	0.86	1.3	4
n-Hexane	730	Not listed	2.9	5.8	2.9	5.5	9.4
2-Hexanone	31	Not listed	0.8 U	1	0.86 U	0.63 U	0.74 U
d-Limonene	Not listed	Not listed	0.8 U	0.63 U	0.86 U	0.63 U	3.3
Naphthalene	0.083	8.3	0.8 U	0.63 U	0.86 U	0.63 U	1.4
n-Nonane	21	Not listed	0.8 U	0.63 U	0.86 U	0.63 U	1.1
n-Octane	Not listed	Not listed	0.8 U	0.63 U	0.86 U	0.63 U	1.8
alpha-Pinene	Not listed	Not listed	0.8 U	0.63 U	0.94	0.63 U	2.3
2-Propanol	210	Not listed	8 U	6.3 U	8.6 U	6.3 U	7.7
Propene	Not listed	Not listed	1.3	1.4	1.4	1.1	1.8
n-Propylbenzene	1,000	Not listed	0.8 U	0.63 U	0.86 U	0.63 U	1
Tetrachloroethene	11	130	0.8 U	1.4	16	1.2	0.74 U
Toluene	5,200	16,000	2.9	6.3	3	6.4	15
Trichloroethene	0.48	$2.1^3/6.3^4$	0.8 U	0.81	6.6	0.78	0.74 U
Trichlorofluoromethane	Not listed	Not listed	1.2	1.2	1.2	1.3	1.3
1,2,4-Trimethylbenzene	7.3	22	0.8 U	0.9	0.86 U	0.86	5.4
1,3,5-Trimethylbenzene	Not listed	Not listed	0.8 U	0.63 U	0.86 U	0.63 U	1.5
o-Xylene	100	300	0.99	1.3	0.86 U	1.3	4.6

Notes:

¹ Screening values based on EPA Vapor Intrusion Screening Level Calculator Version 3.4, November 2015

² FENCE samples are exterior, ambient air samples

³ Based on a Hazard Index of 1 to be protective of sensitive sub-populations

⁴ Based on a Hazard Index of 3 to be protective of non-sensitive sub-populations

CAM Camborne Street

CS Crawl space

DUP Duplicate sample

EPA U.S. Environmental Protection Agency

FENCE Fenceline

J The identification of the analyte is acceptable; however, the reported value is an estimate.

$\mu\text{g}/\text{m}^3$ micrograms per cubic meter

PSS Patterson Street Solvent Plume

SWAN Swan Street

U The analyte was analyzed for, but was not detected at or above the reporting limit.

VISL Vapor Intrusion Screening Level Calculator

Bold Italicized values are chemical detections

Shaded Light-shaded values exceed the EPA Residential Indoor Air Screening Level

Shaded Dark-shaded values exceed the EPA Region 4 Scientific Support Section Removal Management Levels

TABLE 2
PATTERSON STREET SOLVENT PLUME
CRAWL SPACE AND AMBIENT AIR ANALYTICAL RESULTS

Analyte	EPA VISL	EPA Region 4	PSS-CS-2834CAM-REPEAT	PSS-CS-1407SWAN	PSS-CS-1405SWAN	PSS-CS-2836CAM-FENCE ²	PSS-CS-2836CAM-FENCE ²
	Target Indoor Air Concentration	Scientific Support Section Removal Management Levels	Crawl space Air	Crawl space Air	Crawl space Air	Ambient Air	Ambient Air
Volatile Organic Compounds (µg/m³)							
Acetone	32,500	96,000	8.4 U	10	17	8 U	9.4
Benzene	0.36	36	1.4	1.3	0.95	0.88	0.98
Chloroform	0.12	100	0.84 U	2.3	0.84 U	0.8 U	0.73 U
Cyclohexane	6,300	Not listed	1.7 U	1.6 U	1.7 U	1.6 U	1.5 U
Dichlorodifluoromethane	100	Not listed	2.6	2.6	2.4	2.3	2.5
1,1-Dichloroethene	210	630	1.7	1.1	0.87	0.8 U	0.73 U
Ethanol	Not listed	Not listed	8.4 U	7.9 U	17	8 U	8.5
Ethyl Acetate	73	Not listed	1.7 U	2	3	1.6 U	1.7
Ethylbenzene	1.10	110	1.3	0.79 U	0.84 U	0.8 U	0.82
4-Ethyltoluene	Not listed	Not listed	0.84 U	0.79 U	0.84 U	0.8 U	0.73 U
n-Heptane	Not listed	Not listed	0.84 U	0.97	0.96	0.84	0.73 U
n-Hexane	730	Not listed	3.5	3.1	2.6	2.6	1.7
2-Hexanone	31	Not listed	0.84 U	0.79 U	0.84 U	0.8 U	0.73 U
d-Limonene	Not listed	Not listed	0.84 U	1	0.84 U	0.8 U	0.73 U
Naphthalene	0.083	8.3	0.84 U	0.79 U	0.84 U	0.8 U	0.73 U
n-Nonane	21	Not listed	0.84 U	0.79 U	0.84 U	0.8 U	0.73 U
n-Octane	Not listed	Not listed	0.84 U	0.79 U	0.84 U	0.8 U	0.73 U
alpha-Pinene	Not listed	Not listed	0.84 U	4.6	3.2	0.8 U	0.9
2-Propanol	210	Not listed	8.4 U	7.9 U	8.4 U	8 U	7.3 U
Propene	Not listed	Not listed	0.84 U	1	1.6	0.8 U	0.74
n-Propylbenzene	1,000	Not listed	0.84 U	0.79 U	0.84 U	0.8 U	0.73 U
Tetrachloroethene	11	130	2.2	2.4	2.5	0.8 U	1
Toluene	5,200	16,000	6.5	4.2	3.8	2.9	3.7
Trichloroethene	0.48	2.1 ³ /6.3 ⁴	1.5	0.98	0.84	0.8 U	0.73
Trichlorofluoromethane	Not listed	Not listed	1.3	1.2	1.2	1.3	1.3
1,2,4-Trimethylbenzene	7.3	22	0.84 U	0.79 U	0.84 U	0.8 U	0.73 U
1,3,5-Trimethylbenzene	Not listed	Not listed	0.84 U	0.79 U	0.84 U	0.8 U	0.73 U
o-Xylene	100	300	1.6	0.79 U	0.99	0.8 U	0.95

Notes:

¹ Screening values based on EPA Vapor Intrusion Screening Level Calculator Version 3.4, November 2015

² FENCE samples are exterior, ambient air samples

³ Based on a Hazard Index of 1 to be protective of sensitive sub-populations

⁴ Based on a Hazard Index of 3 to be protective of non-sensitive sub-populations

CAM Camborne Street

CS Crawl space

DUP Duplicate sample

EPA U.S. Environmental Protection Agency

FENCE Fenceline

J The identification of the analyte is acceptable; however, the reported value is an estimate.

µg/m³ micrograms per cubic meter

PSS Patterson Street Solvent Plume

SWAN Swan Street

U The analyte was analyzed for, but was not detected at or above the reporting limit.

VISL Vapor Intrusion Screening Level Calculator

Bold Italicized values are chemical detections

Shaded Light-shaded values exceed the EPA Residential Indoor Air Screening Level

Shaded Dark-shaded values exceed the EPA Region 4 Scientific Support Section Removal Management Levels

TABLE 3
PATTERSON STREET SOLVENT PLUME
EXTERIOR SOIL GAS ANALYTICAL RESULTS

Analyte	EPA VISL Target Exterior Soil Gas Concentration	PSS-SG- 2836CAM	PSS-SG-2836CAM- SPLIT	PSS-SG-DITCH	PSS-SG-1407SWAN
		46-48" bgs	34-36" bgs	46-48" bgs	
Volatile Organic Compounds ($\mu\text{g}/\text{m}^3$)					
Acetone	1,100,000	210 U	200 U	35	360 U
Chloroform	4.1	26	27	2.3 U	36 U
1,1-Dichloroethane	58	250	260	2.3 U	36 U
1,1-Dichloroethene	7,000	3,400	3,500	3	36 U
Ethylbenzene	37	26	27	2.3 U	36 U
d-Limonene	Not listed	21 U	20 U	2.3 U	1,100
alpha-Pinene	Not listed	9,300	10,000	6	5,000
Propene	Not listed	21 U	29	2.3 U	36 U
Styrene	35,000	92	100	2.3 U	36 U
Tetrachloroethene	360	3,300	3,500	150	360
Tetrahydrofuran	70,000	21 U	20 U	2.4	36 U
1,1,1-Trichloroethane	170,000	280	300	2.3 U	36 U
Trichloroethene	16	180	180	15	36 U
Trichlorofluoromethane	Not listed	21 U	20 U	2.6	36 U
1,1,2-Trichlorotrifluoroethane	Not listed	53	55	2.3 U	36 U
Toluene	170,000	21 U	25	2.3 U	36 U

Notes:

CAM	Camborne Street
DUP	Duplicate sample
EPA	U.S. Environmental Protection Agency
" bgs	inches below ground surface
$\mu\text{g}/\text{m}^3$	Micrograms per cubic meter
PSS	Patterson Street Solvent Plume
SG	Soil gas
SWAN	Swan Street
U	The analyte was analyzed for, but was not detected at or above the reporting limit.
VISL	EPA Vapor Intrusion Screening Level Calculator Version 3.4, November 2015
Bold	Bold values are chemical detections
Shaded	Shaded values exceed the EPA Residential Exterior Soil Gas-to-Indoor Air Screening Level

TABLE 4
PATTERSON STREET SOLVENT PLUME
SURFACE WATER ANALYTICAL RESULTS

Analyte	15A NCAC 02B Surface Water Standards (Human Health)	PSS-SW-01	PSS-SW-02	PSS-SW-03	PSS-SW-04	PSS-SW-05	PSS-SW-06	PSS-SW-06-DUP
Volatile Organic Compounds (µg/L)								
Acetone	1,100,000	50 U	10 U	4.8 J	2.3 J	2.8 J	2.2 J	2.2 J
Benzene	51	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5	0.49 J
Chloroform	Not listed	2.8	0.5 U	0.46 J	0.5 U	0.5 U	0.5 U	0.5 U
1,2 Dichlorobenzene	1,300	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.78	0.69
1,1-Dichloroethane	Not listed	2.9	0.86	1.6	0.5 U	1.2	1.5	1.6
1,1-Dichloroethene	7,100	100	13	32	2.2	8.7	22	22
cis-1,2-Dichloroethene	720	280	10	11	2.1	11	11	11
1,4-Dioxane	Not listed	100 U	33	30	69	63	47	53
Tetrachloroethylene	3.3	410	16	53	4.5	86	41	42
Toluene	Not listed	2.5 U	0.5 U	0.6	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	Not listed	2.7	3.1	8.8	0.5 U	0.5 U	4.5	4.4
Trichloroethylene	3.0	530	14	30	2.3	32	21	21
Vinyl Chloride	2.4	5.7	0.6	1.0	0.5 U	1.2	1.3	1.2

Notes:

DUP Duplicate sample

EPA U.S. Environmental Protection Agency

J The identification of the analyte is acceptable; however, the reported value is an estimate.

µg/L micrograms per liter

NCAC North Carolina Administrative Code

PSS Patterson Street Solvent Plume

SW Surface water

U The analyte was analyzed for, but was not detected at or above the reporting limit.

Bold Bold values are chemical detections

Shaded Shaded values exceed 15A NCAC 02B Surface Water Standards for Human Health

ENCLOSURE 3
PHOTOGRAPHIC LOG OF ASSESSMENT ACTIVITIES
(Four Pages)





OFFICIAL PHOTOGRAPH NO. 1
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number: TT-02-025

Location: 2836 Camborne Street, Greensboro,
Guildford County, North Carolina

Orientation: North

Date: October 18, 2016

Photographer: John Snyder, Tetra Tech
Superfund Technical
Assessment and Response
Team (START)

Witness: Perry Gaughan, U.S. Environmental
Protection Agency (EPA)

Subject: During crawl space air and soil gas sampling, Tetra Tech collected ambient air samples from the northern fence line at 2836 Camborne Street. Ambient and crawl space air samples were collected in 6-liter Summa canisters with 24-hour flow controllers.



OFFICIAL PHOTOGRAPH NO. 2
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number: TT-02-025

Location: 2832 Camborne Street, Greensboro,
Guilford County, North Carolina

Orientation: East

Date: October 18, 2016

Photographer: John Snyder, Tetra Tech
START

Witness: Perry Gaughan, U.S. EPA

Subject: Tetra Tech installed 6-liter Summa canisters in the crawl spaces of six residences. Air samples from within the crawl spaces were collected over a 24-hour interval.



OFFICIAL PHOTOGRAPH NO. 3
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number: TT-02-025

Location: Swan Street, Greensboro, Guilford County, North Carolina

Orientation: Southwest

Date: October 18, 2016

Photographer: John Snyder, Tetra Tech
START

Witness: Perry Gaughan, U.S. EPA

Subject: Tetra Tech sampled four permanent groundwater monitoring wells that had already been installed around the site as part of a separate investigation. Groundwater samples were collected with a peristaltic pump.



OFFICIAL PHOTOGRAPH NO. 4
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number: TT-02-025

Location: Unnamed tributary of Buffalo Creek,
Greensboro, Guilford County, North
Carolina

Orientation: North

Date: October 18, 2016

Photographer: Brian Croft, Tetra Tech
START

Witness: Perry Gaughan, U.S. EPA

Subject: Tetra Tech collected surface water from six locations around the site. Sample location SW-06 (pictured) was the farthest-downstream sample collection point, located south of Florida Street (see in background).

ENCLOSURE 4
TETRA TECH START LOGBOOK AND FIELD NOTES
(14 Pages)



Outdoor writing products
for Outdoor writing people



All components of
this product are recyclable

Rite in the Rain

A patented, environmentally
responsible, all-weather writing paper
that sheds water and enables you to
write anywhere, in any weather.

Using a pencil or all-weather pen,
Rite in the Rain ensures that your
notes survive the rigors of the field,
regardless of the conditions.

JL DARLING LLC
Tacoma, WA 98454-1017 USA
www.Riteintherain.com

Item No. 371
ISBN: 978-1-932149-23-4

Made in the USA
US Pat No. 6,863,940



Patterson Street--
Solvent Plume

103X902702025



Rite in the Rain
ALL-WEATHER
UNIVERSAL

Nº 371

TT-02-025

Greensboro, NC

Logbook 1 of 1

INCH

TETRA TECH



Project _____

4

5

6

Clear Vinyl Protective Slipcovers (Item No. 30) are available for this size notebook.
Helps protect your notebook from wear & tear. Contact your dealer or call 1-800-334-4444.

John Snyder, PG
Environmental Engineer

1955 Evergreen Boulevard, Building 200, Suite 300, Duluth, GA 30096
Tel +1.678.775.3085 Cell +1.770.402.9013 Fax +1.678.775.3138
john.snyder@tetratech.com



P:

ENVIRONMENTAL PROTECTION AGENCY

Perry Gaughan

On-Scene Coordinator

Emergency Response & Removal Branch

61 Forsyth Street, SW
11th Floor
Atlanta, GA 30303

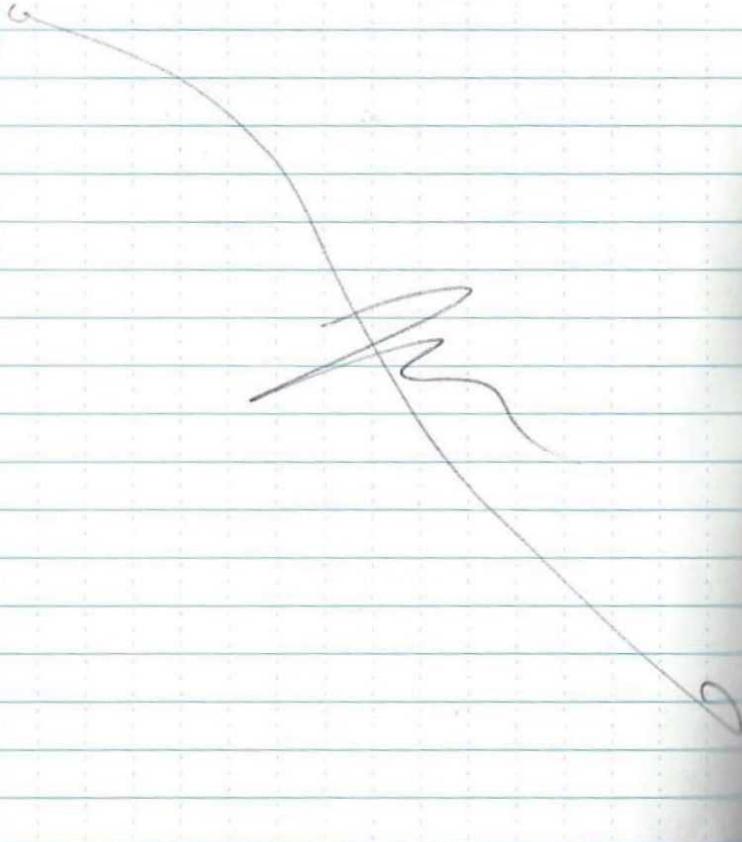
Telephone: (404) 909-2930
Fax: (404) 562-8701
E-mail: gaughan.perry@epa.gov

Printed with soy ink on 100% postconsumer 100% recycled, PCF paper

All work described herein
conducted in accordance
w/ applicable EPA
SESQ FBQSTP, unless
otherwise noted.

7/12/16

- 0900 - START Snyder on site to meet w/ EPA (Ganchay), NCDEQ Bateson + Qi, + Giltord Co.
 - Planning meeting
 1035 - AIP offsite



Scale: 1 square = _____

8/31/16

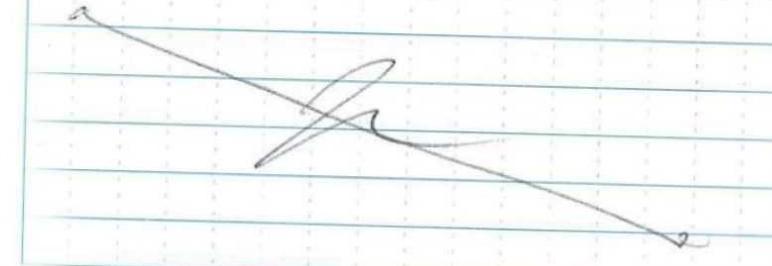
- 0925 - START Snyder + OSC Gwynn on site

- Begin walking around, discussing sampling locations
- 8-10 indoor air samples
- ≈ 6 surface water samples
- groundwater?

Potential residences:

2823 Camborne	crawl space
2828	crawl space (ditch)
2833	crawl space
2835	slab ("for rent")
2837	crawl space
1400 Swan	crawl space
1403	crawl space
1405	crawl space
1410	crawl space

1040 - Snyder offsite



Scale: 1 square = _____

Rite in the Rain.

9/8/16

1405- Snyder on site to distribute access agreements.

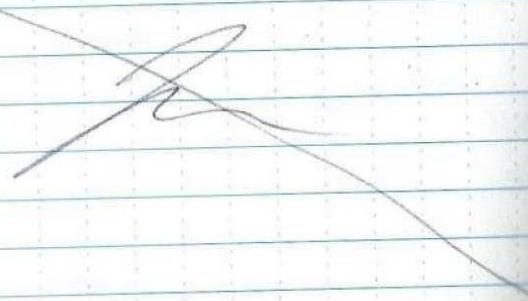
1415- Attempt to contact residents @ 1405 + 1403 Swan Street; no response.

1425- Attempt to contact residents @ 2833, 2835, + 2837 Camborne Street. No one home.

- 2836 Camborne - appears vacant.

- 2832 + 2834 Camborne still appear occupied.

1435- Snyder offsite



Scale: 1 square = _____

10/17/16

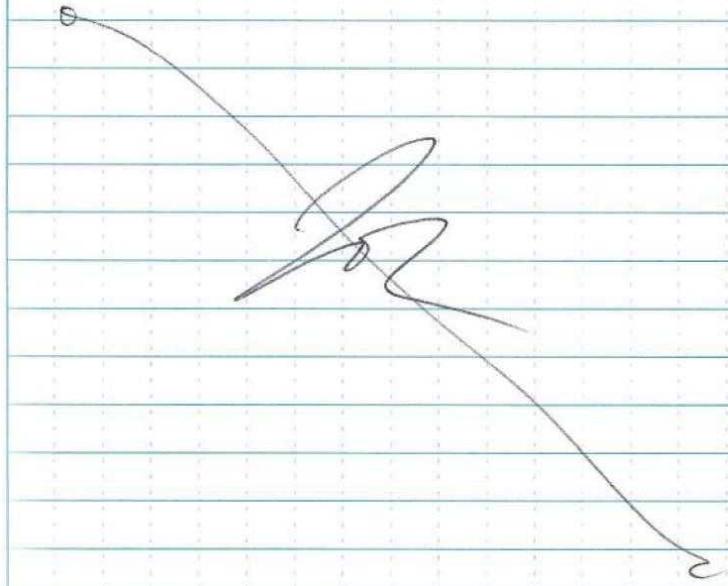
1945- Snyder on site @ Swan Street.

Weather: Clear, calm, 80° -

1815- Start clearing houses in preparation for indoor for sumpney. (see field sheets)

1830- START Barn Craft
Hannah Beanch on site to help

1815- All offsite.



Scale: 1 square = _____

Rite in the Rain.

10/15/16

- 0800- START Snyder Beach, Croft
on site w/ EPA Ganghan
- 0810- H+S meeting
Weather: clear cabin, high 80°
- 0830- Begin setting indoor air
samples (see field sheets)
- 0855- Calibrate MultiRAE Pro
EPAB10132
Fresh Air Calibration - Pass
- PID Calibration 10ppm Iso
Lot # L283770 exp 1/22/2020
10070 ppb - good to go.
- 1015- Calibrate Horiba U-52
Pne # 16220
Bump test, pH ✓ cond ✓ turb ✓
- 1020- Begin groundwater sampling
(see field sheets)
- 1045- Collect surface water sample
PSS-SW-05 (MS/MSO)
- 1110- Collect PPS-SW-06 (surface water)
- 1115- Collect surface water PPS-SW-06-DUP
- 1130- Collect surface water PPS-SW-04
- 1145- START off for lunch
- 1245- START back on site

Scale: 1 square = _____



10/18/16

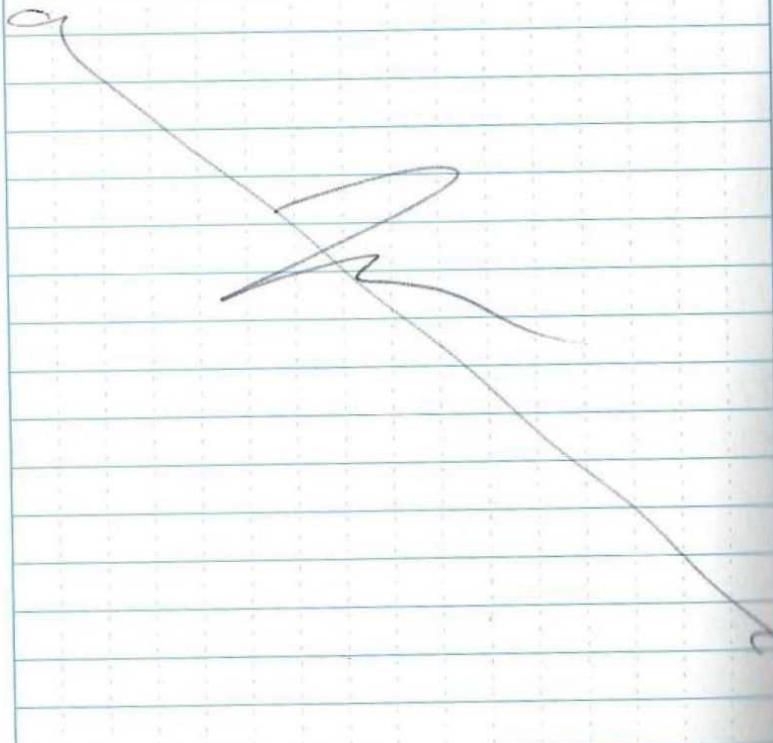
- 1300- Back @ 1400 Swan Street,
Homeowner demands Summa
canisters removed from property.
Cans removed.
- 1330- Collect surface water sample
PSS-GW-SW-01
- 1400- Collect surface water sample
PSS-SW-03
- 1425- Collect groundwater sample
PSS-GW-MW29S
- 1530- Collect surface water sample
PSS-SW-02
- 1705- Collect groundwater sample
PSS-GW-MW33S1
- 1710- Collect groundwater sample
PSS-GW-MW33S1-DUP
- 1715- Collect field blank PSS-FB
- 1725- START offsite
- 8
- ~~JK~~

Scale: 1 square = _____

Rite in the Rain

10/19/16

- 0800 - START JS, BC, +HB on site
 w/ OSC Granghn _____
 Weather: clear, calm, temp of 85°
 H+S meeting
 0810 - Start pulling Summas
 0835 - Start conducting soil gas sampling, see field sheets
 1100 - START offsite



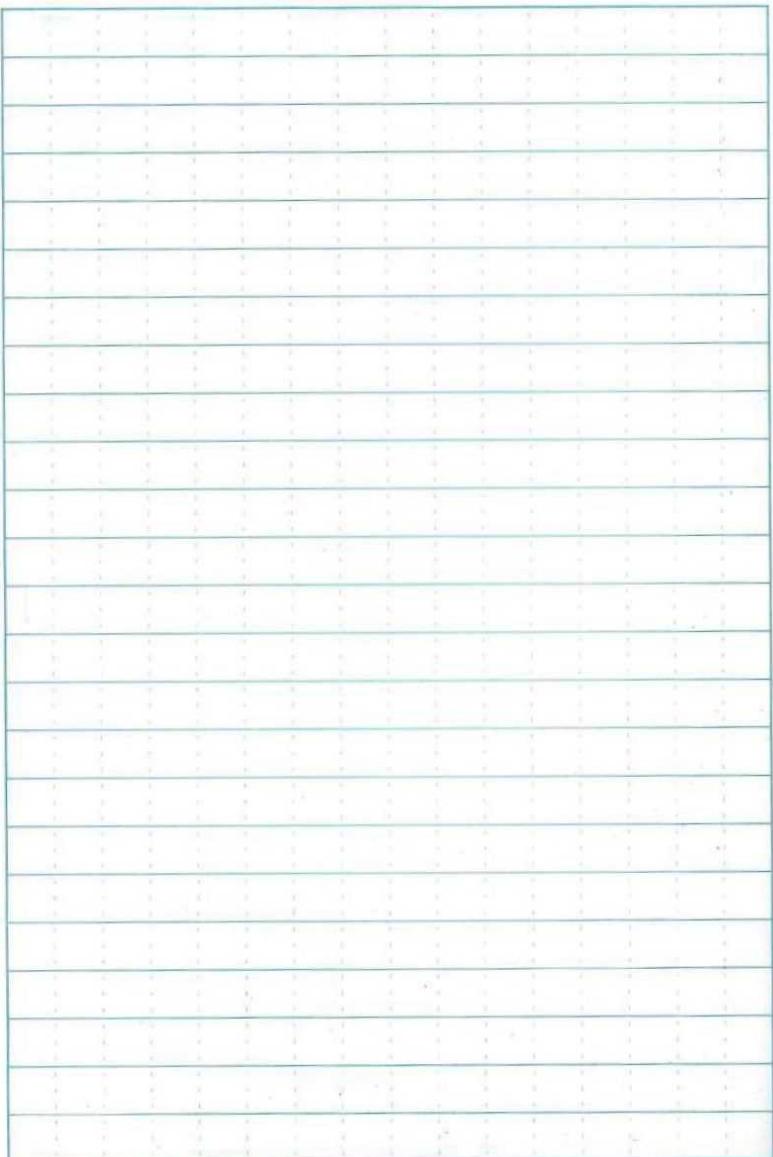
Scale: 1 square = _____

End of
 field work

Ronald S. Brooks
 12/17/16

Scale: 1 square = _____

Rite in the Rain



Scale: 1 square = _____



**ENVIRONMENTAL
PROTECTION AGENCY**

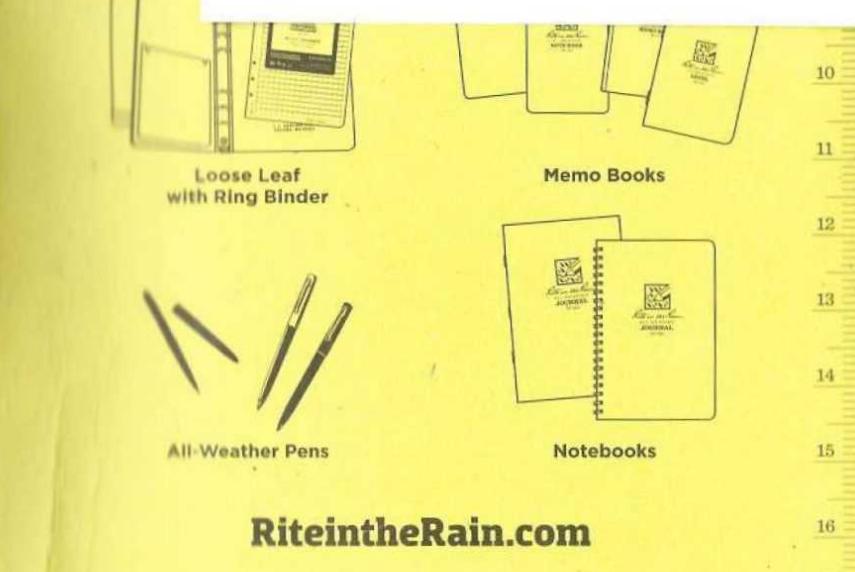
Perry Gaughan
On-Scene Coordinator
Emergency Response & Removal Branch

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Greensboro, NC 27401
www.guilfordhealth.org
www.facebook.com/GuilfordCountyPublicHealth



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RiteintheRain.com

MONITORING WELL/GROUNDWATER SAMPLING SHEET



Monitoring Well No.: MW-30
 Project Name: Pfaffenstiel
 Sampler: JS and HB
 Depth to Well Bottom: 15.58 ft
 Depth to Water: 7.24 ft
 Water Column: 8.34 ft
 Well Diameter: 2 in
 Well Volume: 1.36 gal
 Well Volume: 1.36 gal Immiscible Layer?

Date: 10/18/16
 Project No.: 103ZP1429 60.00

Time	1035	1045	1055	1105	1115	
Vol. Purged	1	2	3	4	5	
Water Level	8.13	8.49	8.75	8.93	9.05	
pH	5.37	5.30	5.41	5.40	5.53	
Cond. (µS/cm)	372	334	323	319	317	
Temp (°C)	22.66	22.59	22.50	22.47	22.49	
Turbidity (NTU)	6.0	2.5	0.9	0.2	0.0	
DO (mg/L)	10.93	10.52	12.81	13.41	(4.57)	
ORP (mV)	146	152	155	150	138	

Purge Start	1020	Total Volume	5	Method of Purging	Peristaltic
Purge End	1115	Purged Dry?	No	How Measured?	Horiiba

QA/QC Sample Collected Here Duplicate Matrix Spike Equip. Blank No QA/QC Sample

Date and Time of Sample Collection:

1115

Sample Number(s):

PSS-GW-MW30

Comments:

[Signature]

MONITORING WELL SAMPLING FIELD FORM

Monitoring
Well No.:MW-29S

Date:

10/18/16

Project Name:

Patterson Street

Project No.:

TT-02-025

Sampler:

IS and HBDepth to Well
Bottom:7.89

ft

Well Volume:

Depth to
Water:6.09

ft

1-inch well = x 0.04 gal/ft

2-inch well = x 0.163 gal/ft

Water Column:

1.8

ft

4-inch well = x 0.65 gal/ft

6 1/8-inch well = x 1.53 gal/ft

Well Diameter:

2

in

Well Volume:

0.3

gal

Immiscible

Layer?

Time	<u>1405</u>					
Vol. Purged	<u>0.5</u>					
Water Level	<u>7.14</u>					
pH	<u>5.68</u>					
Cond. ($\mu\text{S}/\text{cm}$)	<u>752</u>	<u>153</u>				
Temp ($^{\circ}\text{C}$)	<u>24.12</u>					
Turbidity (NTU)	<u>0.1</u>					
DO (mg/L)	<u>12.18</u>					
ORP (mV)	<u>43</u>					

Purge Start	<u>1400</u>
Purge End	<u>1415</u>

Total Volume	<u>1.5</u>
Purged Dry?	<u>yes</u>

Method of Purging	<u>Peristaltic</u>
How Measured?	<u>Horiba</u>

QA/QC Sample Collected Here?

 Duplicate Matrix Spike Equip. Blank No QA/QC SampleDate and Time of
Sample Collection:10/18/16 , 1425

Sample Number(s):

PSS-GW-MW29S

Comments:

MONITORING WELL SAMPLING FIELD FORM

Monitoring
Well No.:MW-275

Date:

10/18/16

Project Name:

Patterson Street

Project No.:

TT-02-025

Sampler:

SonydrDepth to Well
Bottom:21.86

ft

Well Volume:

Depth to
Water:9.62

ft

1-inch well = x 0.04 gal/ft

2-inch well = x 0.163 gal/ft

4-inch well = x 0.65 gal/ft

Water Column:

12.24

ft

6 1/8-inch well = x 1.53 gal/ft

Well Diameter:

.3

in

Well Volume:

2.0

gal

Immiscible

Layer?

—

Time	1510	1520	1530	1555	1605		
Vol. Purged	0.5	1.5	2.5	5	6		
Water Level	10.00	10.05	10.07	10.13	10.15		
pH	5.90	5.68	5.53	5.44	5.44		
Cond. ($\mu\text{S}/\text{cm}$)	124	130	150	171	174		
Temp ($^{\circ}\text{C}$)	23.04	22.98	22.90	22.91	22.85		
Turbidity (NTU)	49.2	45.1	33.0	16.0	8.4		
DO (mg/L)	11.33	11.42	11.23	12.34	13.18		
ORP (mV)	117	144	165	192	197		

Purge Start	<u>1505</u>	Total Volume	<u>6</u>	Method of Purging	<u>Bristle tip</u>
Purge End	<u>1605</u>	Purged Dry?	<u>No</u>	How Measured?	<u>Horiz.</u>

QA/QC Sample Collected Here? Duplicate Matrix Spike Equip. Blank No QA/QC SampleDate and Time of
Sample Collection:10/18/16 1610

Sample Number(s):

PSS - GW - MW 275

Comments:

MONITORING WELL/GROUNDWATER SAMPLING SHEET



Monitoring Well No.: MW-3351
 Project Name: Bond Street
 Sampler: Snyder
 Depth to Well Bottom: 20.12 ft
 Depth to Water: 12.50 ft
 Water Column: 7.62 ft
 Well Diameter: 2 in
 Well Volume: 1.24 gal
 Well Volume: 1.24 gal Immiscible Layer? —

JL DARLING LLC
 Tukwila, WA USA • JLDarling.com

Time	1637	1645	1655				
Vol. Purged	1.5	2.5	3.5				
Water Level	12.90	12.90	12.85				
pH	4.69	4.69	4.73				
Cond. ($\mu\text{S}/\text{cm}$)	79	77	74				
Temp ($^{\circ}\text{C}$)	20.73	20.69	20.87				
Turbidity (NTU)	3.5	0.7	0.0				
DO (mg/L)	13.14	14.43	13.82				
ORP (mV)	254	205	261				

Purge Start	1625	Total Volume	4	Method of Purging	Baristic
Purge End	1700	Purged Dry?	No	How Measured?	HoriBea

QA/QC Sample Collected Here? Duplicate Matrix Spike Equip. Blank No QA/QC Sample

Date and Time of Sample Collection:

10/18/16, 1705

Sample Number(s):

PSS-GW-MW3351

Comments:

Sample time for PSS-GW-MW3351-DUP
is 1710



Soil Gas Implant Sampling Field Sheet

Project:	PSS	Date:	10/19/16
Boring:	2836 CAM	Sampler:	Snyder

Implant Install Date:	10/19
Total Depth:	41' bgs
Tubing Type:	1ef
Screened Depth:	45'-46"
Sand/Glass Beads:	-
Bentonite:	-

Leak Test Performed?	Yes	No
Time/Date:		
Tracer Gas:		
Gas Detector:		
Pump Type:	NA	
Shroud Concentration:		
Implant Concentration:		
Leak Test:	Pass	Fail

Sample Container	Summa	Size:	1L
Container ID	15C01258	Lab:	ALS
Regulator ID	AVG04256	Setting:	5mm

START		END	
Time:	0943	Time:	0948
Pressure:	-27/-30	Pressure:	-31/-4

Sample Name:	PSS-5G-2836CAM
Split Sample?	PSS-5G-2836CAM-SPLIT
Comments:	15C01265 DA00797



Soil Gas Implant Sampling Field Sheet

Project:	PSS	Date:	10/19
Boring:	Ditch	Sampler:	Summa

Implant Install Date:	10/19
Total Depth:	3'
Tubing Type:	to flan
Screened Depth:	36-34"
Sand/Glass Beads:	-
Bentonite:	-

Leak Test Performed?	Yes	No
Time/Date:		
Tracer Gas:		
Gas Detector:		
Pump Type:		
Shroud Concentration:		
Implant Concentration:		
Leak Test:	Pass	Fail

Sample Container	005510	Size:	1L
Container ID	↓	Lab:	ALS
Regulator ID	0A01111	Setting:	3mm

START		END	
Time:	1008	Time:	1014
Pressure:	-29	Pressure:	-5

Sample Name:	PSS - SG - DITCH
Split Sample?	NO
Comments:	North side of ditch CAMBORNE Street



Soil Gas Implant Sampling Field Sheet

Project:	PSS	Date:	10/19
Boring:	1407 Swan	Sampler:	Smyles

Implant Install Date:	10/19
Total Depth:	48"
Tubing Type:	topflow
Screened Depth:	48-46"
Sand/Glass Beads:	
Bentonite:	-

Leak Test Performed?	Yes	No
Time/Date:		
Tracer Gas:		
Gas Detector:		
Pump Type:		
Shroud Concentration:		
Implant Concentration:		
Leak Test:	Pass	Fail

Sample Container	Summa	Size:	1L
Container ID	15500141	Lab:	ALS
Regulator ID	0AO1481	Setting:	Summa

START	END
Time: 1031	Time: 1036
Pressure: -27	Pressure: -5

Sample Name:	PSS-SG-1407 SWAN
Split Sample?	-
Comments:	

ENCLOSURE 5
TABLE OF WITNESSES
(One Page)



TABLE OF WITNESSES
PATTERSON STREET SOLVENT PLUME
GREENSBORO, GUILDFORD COUNTY, NORTH CAROLINA

Mr. Perry Gaughan
On-Scene Coordinator
U.S. Environmental Protection Agency (EPA), Region 4
61 Forsyth Street, SW
Atlanta, GA 30303
Telephone No.: (404) 562-8817

Mr. John Snyder, PG, PE
Superfund Technical Assessment and Response Team (START)
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Mr. Brian Croft
START
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Telephone No.: (678) 775-3138

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Tetra Tech, Inc.
1955 Evergreen Boulevard
Duluth, GA 30096
Telephone No.: (678) 775-3091



ENCLOSURE 6
TETRA TECH DATA VALIDATION REPORT
(80 Sheets)



TT-02-025
Patterson Street Solvent Plume
Removal Assessment Letter Report



DATA VALIDATION CHECKLIST – STAGE 2A

(Page 1 of 5)

Site Name	Patterson Street Solvent Plume	Project No.	TT-02-025
Data Reviewer (signature and date)	 December 2, 2016	Technical Reviewer (signature and date)	 December 14, 2016
Laboratory Report No.	RJ20010	Laboratory	ALS Environmental
Analyses	Volatile Organic Compounds (VOCs) by EPA TO15		
Samples	PSS-CS-1405SWAN, PSS-CS-1406SWAN, PSS-CS-1407SWAN, PSS-CS-2832CAM, PSS-CS-2834CAM, PSS-CS-2836CAM, PSS-CS-2836CAM-FENCE, PSS-CS-2836CAM-FENCE2, PSS-CS-28434CAM-REPEAT, PSS-SG-1407SWAN, PSS-SG-2836CAM, and PSS-SG-DITCH		
Field Duplicate Pairs	PSS-CS-2834CAM/PSS-CS-2834CAM-DUP and PSS-SG-2836CAM/PSS-SG-2836CAM-SPLIT		

This checklist summarizes the Stage 2A validation performed on the subject laboratory report, in accordance with the Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the EPA *National Functional Guidelines (NFG) for Inorganic Superfund Data Review* (August 2014) data validation guidance document, as well as the above referenced methods.

OVERALL EVALUATION:

Some results were qualified due to percent recoveries differences within the duplicate sample set. The data can be used with the qualifications indicated in this checklist.

Data completeness:

Within Criteria	Exceedance/Notes
Y	

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
Y	



DATA VALIDATION CHECKLIST – STAGE 2A

(Page 2 of 5)

Method blanks:

Within Criteria	Exceedance/Notes
Y	

Field blanks:

Within Criteria	Exceedance/Notes
NA	

System monitoring compounds (surrogates and labeled compounds):

Within Criteria	Exceedance/Notes
Y	

MS/MSD:

Within Criteria	Exceedance/Notes
NA	

Post digestion spikes:

Within Criteria	Exceedance/Notes
NA	



DATA VALIDATION CHECKLIST – STAGE 2A

(Page 3 of 5)

Serial dilutions:

Within Criteria	Exceedance/Notes
NA	

Laboratory duplicates:

Within Criteria	Exceedance/Notes
NA	

Field duplicates:

Within Criteria	Exceedance/Notes
N	PSS-CS-2834CAM/PSS-CS-2834CAM-DUP: RPDs out for acetone (62.0%/59.6%) – flag "J" for both samples

Total versus dissolved metals results evaluation:

Within Criteria	Exceedance/Notes
NA	

LCSs/LCSDs:

Within Criteria	Exceedance/Notes
Y	



DATA VALIDATION CHECKLIST – STAGE 2A

(Page 4 of 5)

Toxicity equivalents (TEQs) and isomer specificity (dioxins/furans, cBaP, and PCB congeners only):

Within Criteria	Exceedance/Notes
NA	

Sample dilutions:

Within Criteria	Exceedance/Notes
Y	1.25x: VOCs for PSS-CS-2834CAM 1.26x: VOCs for PSS-CS-2834CAM-DUP 1.45x: VOCs for PSS-CS-2836CAM-FENCE2 1.47x: VOCs for PSS-CS-1406SWAN 1.57x: VOCs for PSS-CS-1407SWAN 1.59x: VOCs for PSS-CS-2836CAM-FENCE 1.60x: VOCs for PSS-CS-2836CAM 1.67x: VOCs for PSS-CS-28434CAM-REPEAT 1.68x: VOCs for PSS-CS-1405SWAN 1.71x: VOCs for PSS-CS-2832CAM 4.5x: VOCs for PSS-SG-DITCH 39.3x: VOCs except alpha-pinene for PSS-SG-2836CAM-SPLIT 41.3x: VOCs except alpha-pinene for PSS-SG-2836CAM 71.2x: VOCs for PSS-SG-1407SWAN 105x: alpha-pinene for PSS-SG-2836CAM-SPLIT 110x: alpha-pinene for PSS-SG-2836CAM

Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
NA	

Estimated detection limit (EDL) and estimated maximum possible concentration (EMPC) (dioxins/furans only):

Within Criteria	Exceedance/Notes
NA	



DATA VALIDATION CHECKLIST – STAGE 2A

(Page 5 of 5)

MDLs/RLs:

Within Criteria	Exceedance/Notes
Y	Results between MDL and RL – flagged “J”

Tentatively identified compounds:

Within Criteria	Exceedance/Notes
NA	

Overall Qualifications:

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

J	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.
J+	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.
J-	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.
NJ	The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated value is the approximate concentration of the analyte in the sample.
R	The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.
U	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).
UJ	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 3

Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-1405SWAN
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-008

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Wida Ang
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS00992

Date Collected: 10/18/16
 Date Received: 10/27/16
 Date Analyzed: 11/4/16
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.78 Final Pressure (psig): 3.62

Canister Dilution Factor: 1.68

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	1.6	0.84	0.95	0.49	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.4	0.84	0.49	0.17	
74-87-3	Chloromethane	ND	0.84	ND	0.41	u
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.84	ND	0.12	
75-01-4	Vinyl Chloride	ND	0.84	ND	0.33	
106-99-0	1,3-Butadiene	ND	0.84	ND	0.38	
74-83-9	Bromomethane	ND	0.84	ND	0.22	
75-00-3	Chloroethane	ND	0.84	ND	0.32	
64-17-5	Ethanol	17	8.4	9.3	4.5	
75-05-8	Acetonitrile	ND	0.84	ND	0.50	u
107-02-8	Acrolein	ND	3.4	ND	1.5	u
67-64-1	Acetone	17	8.4	7.0	3.5	
75-69-4	Trichlorofluoromethane	1.2	0.84	0.21	0.15	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	8.4	ND	3.4	u
107-13-1	Acrylonitrile	ND	0.84	ND	0.39	u
75-35-4	1,1-Dichloroethene	0.87	0.84	0.22	0.21	
75-09-2	Methylene Chloride	ND	0.84	ND	0.24	u
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.84	ND	0.27	
76-13-1	Trichlorotrifluoroethane	ND	0.84	ND	0.11	
75-15-0	Carbon Disulfide	ND	8.4	ND	2.7	
156-60-5	trans-1,2-Dichloroethene	ND	0.84	ND	0.21	
75-34-3	1,1-Dichloroethane	ND	0.84	ND	0.21	
1634-04-4	Methyl tert-Butyl Ether	ND	0.84	ND	0.23	
108-05-4	Vinyl Acetate	ND	8.4	ND	2.4	
78-93-3	2-Butanone (MEK)	ND	8.4	ND	2.8	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[Handwritten signatures and initials]

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 3

Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-1405SWAN
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-008

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Wida Ang
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS00992

Date Collected: 10/18/16
 Date Received: 10/27/16
 Date Analyzed: 11/4/16
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.78 Final Pressure (psig): 3.62

Canister Dilution Factor: 1.68

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.84 u	ND	0.21 u	
141-78-6	Ethyl Acetate	3.0	1.7	0.82	0.47	
110-54-3	n-Hexane	2.6	0.84	0.74	0.24	
67-66-3	Chloroform	ND	0.84 u	ND	0.17 u	
109-99-9	Tetrahydrofuran (THF)	ND	0.84	ND	0.28	
107-06-2	1,2-Dichloroethane	ND	0.84	ND	0.21	
71-55-6	1,1,1-Trichloroethane	ND	0.84	ND	0.15	
71-43-2	Benzene	0.95	0.84	0.30	0.26	
56-23-5	Carbon Tetrachloride	ND	0.84 u	ND	0.13 u	
110-82-7	Cyclohexane	ND	1.7	ND	0.49	
78-87-5	1,2-Dichloropropane	ND	0.84	ND	0.18	
75-27-4	Bromodichloromethane	ND	0.84	ND	0.13	
79-01-6	Trichloroethylene	0.84	0.84	0.16	0.16	
123-91-1	1,4-Dioxane	ND	0.84 u	ND	0.23 u	
80-62-6	Methyl Methacrylate	ND	1.7	ND	0.41 u	
142-82-5	n-Heptane	0.96	0.84	0.23	0.21	
10061-01-5	cis-1,3-Dichloropropene	ND	0.84 u	ND	0.19 u	
108-10-1	4-Methyl-2-pentanone	ND	0.84	ND	0.21	
10061-02-6	trans-1,3-Dichloropropene	ND	0.84	ND	0.19	
79-00-5	1,1,2-Trichloroethane	ND	0.84	ND	0.15	
108-88-3	Toluene	3.8	0.84	1.0	0.22	
591-78-6	2-Hexanone	ND	0.84 u	ND	0.21 u	
124-48-1	Dibromochloromethane	ND	0.84	ND	0.099	
106-93-4	1,2-Dibromoethane	ND	0.84	ND	0.11	
123-86-4	n-Butyl Acetate	ND	0.84	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

L. Ang 12/2/16 *Jaw* 12/14/16

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 3 of 3

Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-1405SWAN
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-008

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Wida Ang
 Sample Type: 6.0 L Silonite Canister
 Test Notes:
 Container ID: AS00992

Date Collected: 10/18/16
 Date Received: 10/27/16
 Date Analyzed: 11/4/16
 Volume(s) Analyzed: 1.00 Liter(s)

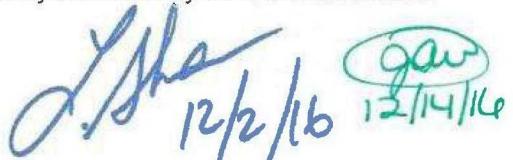
Initial Pressure (psig): -3.78 Final Pressure (psig): 3.62

Canister Dilution Factor: 1.68

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.84 u	ND	0.18 u	
127-18-4	Tetrachloroethene	2.5	0.84	0.37	0.12	
108-90-7	Chlorobenzene	ND	0.84 u	ND	0.18 u	
100-41-4	Ethylbenzene	ND	0.84 u	ND	0.19 u	
179601-23-1	m,p-Xylenes	2.0	1.7	0.47	0.39	
75-25-2	Bromoform	ND	0.84 u	ND	0.081 u	
100-42-5	Styrene	ND	0.84 u	ND	0.20 u	
95-47-6	o-Xylene	0.99	0.84	0.23	0.19	
111-84-2	n-Nonane	ND	0.84 u	ND	0.16 u	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.84	ND	0.12	
98-82-8	Cumene	ND	0.84	ND	0.17	
80-56-8	alpha-Pinene	3.2	0.84	0.57	0.15	
103-65-1	n-Propylbenzene	ND	0.84	ND	0.17 u	
622-96-8	4-Ethyltoluene	ND	0.84	ND	0.17	
108-67-8	1,3,5-Trimethylbenzene	ND	0.84	ND	0.17	
95-63-6	1,2,4-Trimethylbenzene	ND	0.84	ND	0.17	
100-44-7	Benzyl Chloride	ND	0.84	ND	0.16	
541-73-1	1,3-Dichlorobenzene	ND	0.84	ND	0.14	
106-46-7	1,4-Dichlorobenzene	ND	0.84	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.84	ND	0.14	
5989-27-5	d-Limonene	ND	0.84	ND	0.15	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.84	ND	0.087	
120-82-1	1,2,4-Trichlorobenzene	ND	0.84	ND	0.11	
91-20-3	Naphthalene	ND	0.84	ND	0.16	
87-68-3	Hexachlorobutadiene	ND	0.84	ND	0.079	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.



D. Shealy
12/2/16
12/14/16

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 3

Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-1406SWAN
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-005

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Wida Ang
 Sample Type: 6.0 L Silonite Canister
 Test Notes:
 Container ID: AS01123

Date Collected: 10/18/16
 Date Received: 10/27/16
 Date Analyzed: 11/4/16
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.34 Final Pressure (psig): 3.50

Canister Dilution Factor: 1.47

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	1.8	0.74	1.1	0.43	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.5	0.74	0.51	0.15	
74-87-3	Chloromethane	ND	0.74	ND	0.36	u
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.74	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.74	ND	0.29	
106-99-0	1,3-Butadiene	ND	0.74	ND	0.33	
74-83-9	Bromomethane	ND	0.74	ND	0.19	
75-00-3	Chloroethane	ND	0.74	ND	0.28	
64-17-5	Ethanol	18	7.4	9.6	3.9	
75-05-8	Acetonitrile	ND	0.74	ND	0.44	u
107-02-8	Acrolein	ND	2.9	ND	1.3	u
67-64-1	Acetone	19	7.4	8.1	3.1	
75-69-4	Trichlorofluoromethane	1.3	0.74	0.23	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	7.7	7.4	3.1	3.0	
107-13-1	Acrylonitrile	ND	0.74	ND	0.34	u
75-35-4	1,1-Dichloroethene	ND	0.74	ND	0.19	
75-09-2	Methylene Chloride	ND	0.74	ND	0.21	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.74	ND	0.23	
76-13-1	Trichlorotrifluoroethane	ND	0.74	ND	0.096	
75-15-0	Carbon Disulfide	ND	7.4	ND	2.4	
156-60-5	trans-1,2-Dichloroethene	ND	0.74	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.74	ND	0.18	
1634-04-4	Methyl tert-Butyl Ether	ND	0.74	ND	0.20	
108-05-4	Vinyl Acetate	ND	7.4	ND	2.1	
78-93-3	2-Butanone (MEK)	ND	7.4	ND	2.5	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J. P. Shear 12/2/16 *Opw* 12/14/16

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 3

Client: Shealy Environmental Services Inc.
 Client Sample ID: PSS-CS-1406SWAN
 Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-005

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Wida Ang
 Sample Type: 6.0 L Silonite Canister
 Test Notes:
 Container ID: AS01123

Date Collected: 10/18/16
 Date Received: 10/27/16
 Date Analyzed: 11/4/16
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.34 Final Pressure (psig): 3.50

Canister Dilution Factor: 1.47

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.74 u	ND	0.19 u	
141-78-6	Ethyl Acetate	2.7	1.5	0.74	0.41	
110-54-3	n-Hexane	9.4	0.74	2.7	0.21	
67-66-3	Chloroform	1.5	0.74	0.31	0.15	
109-99-9	Tetrahydrofuran (THF)	ND	0.74 u	ND	0.25 u	
107-06-2	1,2-Dichloroethane	ND	0.74	ND	0.18	
71-55-6	1,1,1-Trichloroethane	ND	0.74	ND	0.13	
71-43-2	Benzene	2.5	0.74	0.78	0.23	
56-23-5	Carbon Tetrachloride	ND	0.74 u	ND	0.12 u	
110-82-7	Cyclohexane	1.9	1.5	0.55	0.43	
78-87-5	1,2-Dichloropropane	ND	0.74 u	ND	0.16 u	
75-27-4	Bromodichloromethane	ND	0.74	ND	0.11	
79-01-6	Trichloroethene	ND	0.74	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.74	ND	0.20	
80-62-6	Methyl Methacrylate	ND	1.5	ND	0.36	
142-82-5	n-Heptane	4.0	0.74	0.97	0.18	
10061-01-5	cis-1,3-Dichloropropene	ND	0.74 u	ND	0.16 u	
108-10-1	4-Methyl-2-pentanone	ND	0.74	ND	0.18	
10061-02-6	trans-1,3-Dichloropropene	ND	0.74	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.74	ND	0.13	
108-88-3	Toluene	15	0.74	4.0	0.20	
591-78-6	2-Hexanone	ND	0.74 u	ND	0.18	
124-48-1	Dibromochloromethane	ND	0.74	ND	0.086	
106-93-4	1,2-Dibromoethane	ND	0.74	ND	0.096	
123-86-4	n-Butyl Acetate	ND	0.74	ND	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J. Ma 12/2/16 Gaw 12/14/16

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-1406SWAN
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-005

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Wida Ang
 Sample Type: 6.0 L Silonite Canister
 Test Notes:
 Container ID: AS01123

Date Collected: 10/18/16
 Date Received: 10/27/16
 Date Analyzed: 11/4/16
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.34 Final Pressure (psig): 3.50

Canister Dilution Factor: 1.47

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	1.8	0.74	0.40	0.16	
127-18-4	Tetrachloroethene	ND	0.74 <u>u</u>	ND	0.11 <u>u</u>	
108-90-7	Chlorobenzene	ND	0.74 <u>u</u>	ND	0.16 <u>u</u>	
100-41-4	Ethylbenzene	3.3	0.74	0.76	0.17	
179601-23-1	m,p-Xylenes	12	1.5	2.7	0.34	
75-25-2	Bromoform	ND	0.74 <u>u</u>	ND	0.071 <u>u</u>	
100-42-5	Styrene	ND	0.74 <u>u</u>	ND	0.17 <u>u</u>	
95-47-6	o-Xylene	4.6	0.74	1.1	0.17	
111-84-2	n-Nonane	1.1	0.74	0.20	0.14	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.74 <u>u</u>	ND	0.11 <u>u</u>	
98-82-8	Cumene	ND	0.74 <u>u</u>	ND	0.15 <u>u</u>	
80-56-8	alpha-Pinene	2.3	0.74	0.41	0.13	
103-65-1	n-Propylbenzene	1.0	0.74	0.21	0.15	
622-96-8	4-Ethyltoluene	1.5	0.74	0.30	0.15	
108-67-8	1,3,5-Trimethylbenzene	1.5	0.74	0.30	0.15	
95-63-6	1,2,4-Trimethylbenzene	5.4	0.74	11	0.15	
100-44-7	Benzyl Chloride	ND	0.74 <u>u</u>	ND	0.14 <u>u</u>	
541-73-1	1,3-Dichlorobenzene	ND	0.74	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.74	ND	0.12	
95-50-1	1,2-Dichlorobenzene	ND	0.74	ND	0.12	
5989-27-5	d-Limonene	3.3	0.74	0.60	0.13	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.74 <u>u</u>	ND	0.076 <u>u</u>	
120-82-1	1,2,4-Trichlorobenzene	ND	0.74 <u>u</u>	ND	0.099 <u>u</u>	
91-20-3	Naphthalene	1.4	0.74	0.26	0.14	
87-68-3	Hexachlorobutadiene	ND	0.74 <u>u</u>	ND	0.069 <u>u</u>	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 3

Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-1407SWAN
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-007

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Wida Ang
 Sample Type: 6.0 L Silonite Canister
 Test Notes:
 Container ID: AS00774

Date Collected: 10/18/16
 Date Received: 10/27/16
 Date Analyzed: 11/4/16
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.08 Final Pressure (psig): 3.52

Canister Dilution Factor: 1.57

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	1.0	0.79	0.58	0.46	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.6	0.79	0.52	0.16	
74-87-3	Chloromethane	ND	0.79	ND	0.38	u
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.79	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.79	ND	0.31	
106-99-0	1,3-Butadiene	ND	0.79	ND	0.35	
74-83-9	Bromomethane	ND	0.79	ND	0.20	
75-00-3	Chloroethane	ND	0.79	ND	0.30	
64-17-5	Ethanol	ND	7.9	ND	4.2	
75-05-8	Acetonitrile	ND	0.79	ND	0.47	
107-02-8	Acrolein	ND	3.1	ND	1.4	
67-64-1	Acetone	10	7.9	4.2	3.3	
75-69-4	Trichlorofluoromethane	1.2	0.79	0.22	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	7.9	ND	3.2	u
107-13-1	Acrylonitrile	ND	0.79	ND	0.36	u
75-35-4	1,1-Dichloroethene	1.1	0.79	0.27	0.20	
75-09-2	Methylene Chloride	ND	0.79	ND	0.23	u
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.79	ND	0.25	
76-13-1	Trichlorotrifluoroethane	ND	0.79	ND	0.10	
75-15-0	Carbon Disulfide	ND	7.9	ND	2.5	
156-60-5	trans-1,2-Dichloroethene	ND	0.79	ND	0.20	
75-34-3	1,1-Dichloroethane	ND	0.79	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.79	ND	0.22	
108-05-4	Vinyl Acetate	ND	7.9	ND	2.2	
78-93-3	2-Butanone (MEK)	ND	7.9	ND	2.7	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J. Fisher
 12/2/16 12/14/16

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 3

Client: Shealy Environmental Services Inc.

Client Sample ID: PSS-CS-1407SWAN

Client Project ID: Patterson Street

ALS Project ID: P1605059

ALS Sample ID: P1605059-007

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00774

Date Collected: 10/18/16

Date Received: 10/27/16

Date Analyzed: 11/4/16

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.08 Final Pressure (psig): 3.52

Canister Dilution Factor: 1.57

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.79	ND	0.20	U
141-78-6	Ethyl Acetate	2.0	1.6	0.56	0.44	
110-54-3	n-Hexane	3.1	0.79	0.88	0.22	
67-66-3	Chloroform	2.3	0.79	0.47	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	0.79	ND	0.27	U
107-06-2	1,2-Dichloroethane	ND	0.79	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.79	ND	0.14	↓
71-43-2	Benzene	1.3	0.79	0.41	0.25	
56-23-5	Carbon Tetrachloride	ND	0.79	ND	0.12	U
110-82-7	Cyclohexane	ND	1.6	ND	0.46	
78-87-5	1,2-Dichloropropane	ND	0.79	ND	0.17	
75-27-4	Bromodichloromethane	ND	0.79	ND	0.12	↓
79-01-6	Trichloroethene	0.98	0.79	0.18	0.15	
123-91-1	1,4-Dioxane	ND	0.79	ND	0.22	U
80-62-6	Methyl Methacrylate	ND	1.6	ND	0.38	U
142-82-5	n-Heptane	0.97	0.79	0.24	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.79	ND	0.17	U
108-10-1	4-Methyl-2-pentanone	ND	0.79	ND	0.19	
10061-02-6	trans-1,3-Dichloropropene	ND	0.79	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.79	ND	0.14	↓
108-88-3	Toluene	4.2	0.79	1.1	0.21	
591-78-6	2-Hexanone	ND	0.79	ND	0.19	U
124-48-1	Dibromochloromethane	ND	0.79	ND	0.092	
106-93-4	1,2-Dibromoethane	ND	0.79	ND	0.10	
123-86-4	n-Butyl Acetate	ND	0.79	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J. Ang
12/2/16 12/14/16

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-1407SWAN
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-007

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Wida Ang
 Sample Type: 6.0 L Silonite Canister
 Test Notes:
 Container ID: AS00774

Date Collected: 10/18/16
 Date Received: 10/27/16
 Date Analyzed: 11/4/16
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.08 Final Pressure (psig): 3.52

Canister Dilution Factor: 1.57

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.79	ND	0.17	U
127-18-4	Tetrachloroethene	2.4	0.79	0.35	0.12	
108-90-7	Chlorobenzene	ND	0.79	ND	0.17	U
100-41-4	Ethylbenzene	ND	0.79	ND	0.18	U
179601-23-1	m,p-Xylenes	1.7	1.6	0.40	0.36	
75-25-2	Bromoform	ND	0.79	ND	0.076	U
100-42-5	Styrene	ND	0.79	ND	0.18	
95-47-6	o-Xylene	ND	0.79	ND	0.18	
111-84-2	n-Nonane	ND	0.79	ND	0.15	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.79	ND	0.11	U
98-82-8	Cumene	ND	0.79	ND	0.16	U
80-56-8	alpha-Pinene	4.6	0.79	0.83	0.14	
103-65-1	n-Propylbenzene	ND	0.79	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.79	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.79	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.79	ND	0.16	
100-44-7	Benzyl Chloride	ND	0.79	ND	0.15	
541-73-1	1,3-Dichlorobenzene	ND	0.79	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.79	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.79	ND	0.13	
5989-27-5	d-Limonene	1.0	0.79	0.18	0.14	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.79	ND	0.081	U
120-82-1	1,2,4-Trichlorobenzene	ND	0.79	ND	0.11	
91-20-3	Naphthalene	ND	0.79	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.79	ND	0.074	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J. J. Shaw
 12/2/16 12/14/16
 (gaw)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-2832CAM
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-006

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Wida Ang
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: AC02049

Date Collected: 10/18/16
 Date Received: 10/27/16
 Date Analyzed: 11/4/16
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.99 Final Pressure (psig): 3.60

Canister Dilution Factor: 1.71

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	1.4	0.86	0.83	0.50	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.6	0.86	0.53	0.17	
74-87-3	Chloromethane	ND	0.86	ND	0.41	u
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.86	ND	0.12	
75-01-4	Vinyl Chloride	ND	0.86	ND	0.33	
106-99-0	1,3-Butadiene	ND	0.86	ND	0.39	
74-83-9	Bromomethane	ND	0.86	ND	0.22	
75-00-3	Chloroethane	ND	0.86	ND	0.32	
64-17-5	Ethanol	ND	8.6	ND	4.5	
75-05-8	Acetonitrile	ND	0.86	ND	0.51	
107-02-8	Acrolein	ND	3.4	ND	1.5	
67-64-1	Acetone	9.3	8.6	3.9	3.6	
75-69-4	Trichlorofluoromethane	1.2	0.86	0.22	0.15	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	8.6	ND	3.5	u
107-13-1	Acrylonitrile	ND	0.86	ND	0.39	u
75-35-4	1,1-Dichloroethene	29	0.86	7.3	0.22	
75-09-2	Methylene Chloride	ND	0.86	ND	0.25	u
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.86	ND	0.27	
76-13-1	Trichlorotrifluoroethane	ND	0.86	ND	0.11	
75-15-0	Carbon Disulfide	ND	8.6	ND	2.7	
156-60-5	trans-1,2-Dichloroethene	ND	0.86	ND	0.22	
75-34-3	1,1-Dichloroethane	ND	0.86	ND	0.21	
1634-04-4	Methyl tert-Butyl Ether	ND	0.86	ND	0.24	
108-05-4	Vinyl Acetate	ND	8.6	ND	2.4	
78-93-3	2-Butanone (MEK)	ND	8.6	ND	2.9	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J. Ang 12/2/16 *Jaw* 12/14/16

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-2832CAM
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-006

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Wida Ang
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: AC02049

Date Collected: 10/18/16
 Date Received: 10/27/16
 Date Analyzed: 11/4/16
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.99 Final Pressure (psig): 3.60

Canister Dilution Factor: 1.71

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.86 u	ND	0.22 u	
141-78-6	Ethyl Acetate	2.2	1.7	0.62	0.47	
110-54-3	n-Hexane	2.9	0.86	0.81	0.24	
67-66-3	Chloroform	ND	0.86 u	ND	0.18 u	
109-99-9	Tetrahydrofuran (THF)	ND	0.86	ND	0.29	
107-06-2	1,2-Dichloroethane	ND	0.86	ND	0.21	
71-55-6	1,1,1-Trichloroethane	ND	0.86	ND	0.16	
71-43-2	Benzene	0.90	0.86	0.28	0.27	
56-23-5	Carbon Tetrachloride	ND	0.86 u	ND	0.14 u	
110-82-7	Cyclohexane	ND	1.7	ND	0.50	
78-87-5	1,2-Dichloropropane	ND	0.86	ND	0.19	
75-27-4	Bromodichloromethane	ND	0.86	ND	0.13	
79-01-6	Trichloroethene	6.6	0.86	1.2	0.16	
123-91-1	1,4-Dioxane	ND	0.86 u	ND	0.24 u	
80-62-6	Methyl Methacrylate	ND	1.7 u	ND	0.42 u	
142-82-5	n-Heptane	0.86	0.86	0.21	0.21	
10061-01-5	cis-1,3-Dichloropropene	ND	0.86 u	ND	0.19 u	
108-10-1	4-Methyl-2-pentanone	ND	0.86	ND	0.21	
10061-02-6	trans-1,3-Dichloropropene	ND	0.86	ND	0.19	
79-00-5	1,1,2-Trichloroethane	ND	0.86	ND	0.16	
108-88-3	Toluene	3.0	0.86	0.81	0.23	
591-78-6	2-Hexanone	ND	0.86 u	ND	0.21 u	
124-48-1	Dibromochloromethane	ND	0.86	ND	0.10	
106-93-4	1,2-Dibromoethane	ND	0.86	ND	0.11	
123-86-4	n-Butyl Acetate	ND	0.86	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

L. Shey
 12/2/16 *6aw*
 12/14/16

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-2832CAM
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-006

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Wida Ang
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: AC02049

Date Collected: 10/18/16
 Date Received: 10/27/16
 Date Analyzed: 11/4/16
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.99 Final Pressure (psig): 3.60

Canister Dilution Factor: 1.71

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.86	ND	0.18	U
127-18-4	Tetrachloroethene	(16)	0.86	2.4	0.13	
108-90-7	Chlorobenzene	ND	0.86	ND	0.19	U
100-41-4	Ethylbenzene	ND	0.86	ND	0.20	
179601-23-1	m,p-Xylenes	ND	1.7	ND	0.39	
75-25-2	Bromoform	ND	0.86	ND	0.083	
100-42-5	Styrene	ND	0.86	ND	0.20	
95-47-6	o-Xylene	ND	0.86	ND	0.20	
111-84-2	n-Nonane	ND	0.86	ND	0.16	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.86	ND	0.12	
98-82-8	Cumene	ND	0.86	ND	0.17	
80-56-8	alpha-Pinene	0.94	0.86	0.17	0.15	
103-65-1	n-Propylbenzene	ND	0.86	ND	0.17	
622-96-8	4-Ethyltoluene	ND	0.86	ND	0.17	
108-67-8	1,3,5-Trimethylbenzene	ND	0.86	ND	0.17	
95-63-6	1,2,4-Trimethylbenzene	ND	0.86	ND	0.17	
100-44-7	Benzyl Chloride	ND	0.86	ND	0.17	
541-73-1	1,3-Dichlorobenzene	ND	0.86	ND	0.14	
106-46-7	1,4-Dichlorobenzene	ND	0.86	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.86	ND	0.14	
5989-27-5	d-Limonene	ND	0.86	ND	0.15	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.86	ND	0.088	
120-82-1	1,2,4-Trichlorobenzene	ND	0.86	ND	0.12	
91-20-3	Naphthalene	ND	0.86	ND	0.16	
87-68-3	Hexachlorobutadiene	ND	0.86	ND	0.080	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Shealy Environmental Services Inc.

Client Sample ID: PSS-CS-2834CAM

Client Project ID: Patterson Street

ALS Project ID: P1605059

ALS Sample ID: P1605059-003

Test Code: EPA TO-15

Date Collected: 10/18/16

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8

Date Received: 10/27/16

Analyst: Wida Ang

Date Analyzed: 11/4/16

Sample Type: 6.0 L Summa Canister

Volume(s) Analyzed: 1.00 Liter(s)

Test Notes:

Container ID: AC02150

Initial Pressure (psig): -0.04 Final Pressure (psig): 3.69

Canister Dilution Factor: 1.25

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	1.4	0.63	0.81	0.36	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.4	0.63	0.48	0.13	
74-87-3	Chloromethane	ND	0.63	ND	0.30	u
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.63	ND	0.089	
75-01-4	Vinyl Chloride	ND	0.63	ND	0.24	
106-99-0	1,3-Butadiene	ND	0.63	ND	0.28	
74-83-9	Bromomethane	ND	0.63	ND	0.16	
75-00-3	Chloroethane	ND	0.63	ND	0.24	
64-17-5	Ethanol	7.7	6.3	4.1	3.3	
75-05-8	Acetonitrile	ND	0.63	ND	0.37	u
107-02-8	Acrolein	ND	2.5	ND	1.1	u
67-64-1	Acetone	15.1	6.3	6.1	2.6	
75-69-4	Trichlorofluoromethane	1.2	0.63	0.22	0.11	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	6.3	ND	2.5	u
107-13-1	Acrylonitrile	ND	0.63	ND	0.29	u
75-35-4	1,1-Dichloroethylene	1.3	0.63	0.34	0.16	
75-09-2	Methylene Chloride	ND	0.63	ND	0.18	u
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.63	ND	0.20	
76-13-1	Trichlorotrifluoroethane	ND	0.63	ND	0.082	
75-15-0	Carbon Disulfide	ND	6.3	ND	2.0	
156-60-5	trans-1,2-Dichloroethylene	ND	0.63	ND	0.16	
75-34-3	1,1-Dichloroethane	ND	0.63	ND	0.15	
1634-04-4	Methyl tert-Butyl Ether	ND	0.63	ND	0.17	
108-05-4	Vinyl Acetate	ND	6.3	ND	1.8	
78-93-3	2-Butanone (MEK)	ND	6.3	ND	2.1	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J. Shaw 12/2/16 Gau 12/14/16

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 3

Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-2834CAM
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-003

Test Code: EPA TO-15 **Date Collected:** 10/18/16
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 **Date Received:** 10/27/16
Analyst: Wida Ang **Date Analyzed:** 11/4/16
Sample Type: 6.0 L Summa Canister **Volume(s) Analyzed:** 1.00 Liter(s)
Test Notes:
Container ID: AC02150

Initial Pressure (psig): -0.04 Final Pressure (psig): 3.69

Canister Dilution Factor: 1.25

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.63 u	ND	0.16 u	
141-78-6	Ethyl Acetate	1.8	1.3	0.49	0.35	
110-54-3	n-Hexane	5.8	0.63	1.6	0.18	
67-66-3	Chloroform	ND	0.63 u	ND	0.13 u	
109-99-9	Tetrahydrofuran (THF)	ND	0.63	ND	0.21	
107-06-2	1,2-Dichloroethane	ND	0.63	ND	0.15	
71-55-6	1,1,1-Trichloroethane	ND	0.63	ND	0.11	
71-43-2	Benzene	1.5	0.63	0.47	0.20	
56-23-5	Carbon Tetrachloride	ND	0.63 u	ND	0.099 u	
110-82-7	Cyclohexane	ND	1.3	ND	0.36	
78-87-5	1,2-Dichloropropane	ND	0.63	ND	0.14	
75-27-4	Bromodichloromethane	ND	0.63	ND	0.093	
79-01-6	Trichloroethylene	0.81	0.63	0.15	0.12	
123-91-1	1,4-Dioxane	ND	0.63 u	ND	0.17 u	
80-62-6	Methyl Methacrylate	ND	1.3 u	ND	0.31 u	
142-82-5	n-Heptane	1.3	0.63	0.31	0.15	
10061-01-5	cis-1,3-Dichloropropene	ND	0.63 u	ND	0.14 u	
108-10-1	4-Methyl-2-pentanone	ND	0.63	ND	0.15	
10061-02-6	trans-1,3-Dichloropropene	ND	0.63	ND	0.14	
79-00-5	1,1,2-Trichloroethane	ND	0.63	ND	0.11	
108-88-3	Toluene	6.3	0.63	1.7	0.17	
591-78-6	2-Hexanone	1.0	0.63	0.26	0.15	
124-48-1	Dibromochloromethane	ND	0.63 u	ND	0.073 u	
106-93-4	1,2-Dibromoethane	ND	0.63	ND	0.081	
123-86-4	n-Butyl Acetate	ND	0.63	ND	0.13	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J. Hau 12/2/16 *gaw* 12/14/16

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-2834CAM
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-003

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Wida Ang
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: AC02150

Date Collected: 10/18/16
 Date Received: 10/27/16
 Date Analyzed: 11/4/16
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -0.04 Final Pressure (psig): 3.69

Canister Dilution Factor: 1.25

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.63	ND	0.13	4
127-18-4	Tetrachloroethene	1.4	0.63	0.20	0.092	
108-90-7	Chlorobenzene	ND	0.63	ND	0.14	4
100-41-4	Ethylbenzene	0.97	0.63	0.22	0.14	
179601-23-1	m,p-Xylenes	3.4	1.3	0.78	0.29	
75-25-2	Bromoform	ND	0.63	ND	0.060	4
100-42-5	Styrene	ND	0.63	ND	0.15	4
95-47-6	o-Xylene	1.3	0.63	0.29	0.14	
111-84-2	n-Nonane	ND	0.63	ND	0.12	4
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.63	ND	0.091	
98-82-8	Cumene	ND	0.63	ND	0.13	
80-56-8	alpha-Pinene	ND	0.63	ND	0.11	
103-65-1	n-Propylbenzene	ND	0.63	ND	0.13	
622-96-8	4-Ethyltoluene	ND	0.63	ND	0.13	
108-67-8	1,3,5-Trimethylbenzene	ND	0.63	ND	0.13	
95-63-6	1,2,4-Trimethylbenzene	0.90	0.63	0.18	0.13	
100-44-7	Benzyl Chloride	ND	0.63	ND	0.12	4
541-73-1	1,3-Dichlorobenzene	ND	0.63	ND	0.10	
106-46-7	1,4-Dichlorobenzene	ND	0.63	ND	0.10	
95-50-1	1,2-Dichlorobenzene	ND	0.63	ND	0.10	
5989-27-5	d-Limonene	ND	0.63	ND	0.11	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.63	ND	0.065	
120-82-1	1,2,4-Trichlorobenzene	ND	0.63	ND	0.084	
91-20-3	Naphthalene	ND	0.63	ND	0.12	
87-68-3	Hexachlorobutadiene	ND	0.63	ND	0.059	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J. Mier *12/2/16* *gaw* *12/14/16*

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-2834CAM-DUP
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-004

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Wida Ang
 Sample Type: 6.0 L Silonite Canister
 Test Notes:
 Container ID: AS01037

Date Collected: 10/18/16
 Date Received: 10/27/16
 Date Analyzed: 11/4/16
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -0.21 Final Pressure (psig): 3.59

Canister Dilution Factor: 1.26

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	1.1	0.63	0.62	0.37	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.6	0.63	0.52	0.13	
74-87-3	Chloromethane	ND	0.63	ND	0.31	U
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.63	ND	0.090	
75-01-4	Vinyl Chloride	ND	0.63	ND	0.25	
106-99-0	1,3-Butadiene	ND	0.63	ND	0.28	
74-83-9	Bromomethane	ND	0.63	ND	0.16	
75-00-3	Chloroethane	ND	0.63	ND	0.24	U
64-17-5	Ethanol	0.5	6.3	5.0	3.3	
75-05-8	Acetonitrile	ND	0.63	ND	0.38	U
107-02-8	Acrolein	ND	2.5	ND	1.1	U
67-64-1	Acetone	7.9 J	6.3	3.3 J	2.7	
75-69-4	Trichlorofluoromethane	1.3	0.63	0.23	0.11	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	6.3	ND	2.6	U
107-13-1	Acrylonitrile	ND	0.63	ND	0.29	U
75-35-4	1,1-Dichloroethene	1.2	0.63	0.29	0.16	
75-09-2	Methylene Chloride	ND	0.63	ND	0.18	U
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.63	ND	0.20	
76-13-1	Trichlorotrifluoroethane	ND	0.63	ND	0.082	
75-15-0	Carbon Disulfide	ND	6.3	ND	2.0	
156-60-5	trans-1,2-Dichloroethene	ND	0.63	ND	0.16	
75-34-3	1,1-Dichloroethane	ND	0.63	ND	0.16	
1634-04-4	Methyl tert-Butyl Ether	ND	0.63	ND	0.17	
108-05-4	Vinyl Acetate	ND	6.3	ND	1.8	
78-93-3	2-Butanone (MEK)	ND	6.3	ND	2.1	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

*J. Ang
12/2/16 12/14/16*

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-2834CAM-DUP
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-004

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Wida Ang
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS01037

Date Collected: 10/18/16
 Date Received: 10/27/16
 Date Analyzed: 11/4/16
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -0.21 Final Pressure (psig): 3.59

Canister Dilution Factor: 1.26

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.63 u	ND	0.16 u	
141-78-6	Ethyl Acetate	2.0	1.3	0.55	0.35	
110-54-3	n-Hexane	5.5	0.63	1.6	0.18	
67-66-3	Chloroform	ND	0.63 u	ND	0.13 u	
109-99-9	Tetrahydrofuran (THF)	ND	0.63	ND	0.21	
107-06-2	1,2-Dichloroethane	ND	0.63	ND	0.16	
71-55-6	1,1,1-Trichloroethane	ND	0.63	ND	0.12	
71-43-2	Benzene	1.5	0.63	0.46	0.20	
56-23-5	Carbon Tetrachloride	ND	0.63 u	ND	0.10 u	
110-82-7	Cyclohexane	ND	1.3	ND	0.37	
78-87-5	1,2-Dichloropropane	ND	0.63	ND	0.14	
75-27-4	Bromodichloromethane	ND	0.63	ND	0.094	
79-01-6	Trichloroethylene	0.78	0.63	0.15	0.12	
123-91-1	1,4-Dioxane	ND	0.63 u	ND	0.17 u	
80-62-6	Methyl Methacrylate	ND	1.3	ND	0.31 u	
142-82-5	n-Heptane	1.3	0.63	0.31	0.15	
10061-01-5	cis-1,3-Dichloropropene	ND	0.63 u	ND	0.14 u	
108-10-1	4-Methyl-2-pentanone	ND	0.63	ND	0.15	
10061-02-6	trans-1,3-Dichloropropene	ND	0.63	ND	0.14	
79-00-5	1,1,2-Trichloroethane	ND	0.63	ND	0.12	
108-88-3	Toluene	6.4	0.63	17	0.17	
591-78-6	2-Hexanone	ND	0.63 u	ND	0.15 u	
124-48-1	Dibromochloromethane	ND	0.63 u	ND	0.074	
106-93-4	1,2-Dibromoethane	ND	0.63	ND	0.082	
123-86-4	n-Butyl Acetate	ND	0.63	ND	0.13	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J. Ang *Jaw*
 12/1/16 12/14/16

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-2834CAM-DUP
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-004

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Wida Ang
 Sample Type: 6.0 L Silonite Canister
 Test Notes:
 Container ID: AS01037

Date Collected: 10/18/16
 Date Received: 10/27/16
 Date Analyzed: 11/4/16
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -0.21 Final Pressure (psig): 3.59

Canister Dilution Factor: 1.26

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.63	0.13	0.13	U
127-18-4	Tetrachloroethene	1.2	0.63	0.18	0.093	
108-90-7	Chlorobenzene	ND	0.63	ND	0.14	U
100-41-4	Ethylbenzene	1.0	0.63	0.23	0.15	
179601-23-1	m,p-Xylenes	3.4	1.3	0.77	0.29	
75-25-2	Bromoform	ND	0.63	ND	0.061	U
100-42-5	Styrene	ND	0.63	ND	0.15	U
95-47-6	o-Xylene	1.3	0.63	0.29	0.15	
111-84-2	n-Nonane	ND	0.63	ND	0.12	U
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.63	ND	0.092	
98-82-8	Cumene	ND	0.63	ND	0.13	
80-56-8	alpha-Pinene	ND	0.63	ND	0.11	
103-65-1	n-Propylbenzene	ND	0.63	ND	0.13	
622-96-8	4-Ethyltoluene	ND	0.63	ND	0.13	
108-67-8	1,3,5-Trimethylbenzene	ND	0.63	ND	0.13	
95-63-6	1,2,4-Trimethylbenzene	0.86	0.63	0.17	0.13	
100-44-7	Benzyl Chloride	ND	0.63	ND	0.12	U
541-73-1	1,3-Dichlorobenzene	ND	0.63	ND	0.10	
106-46-7	1,4-Dichlorobenzene	ND	0.63	ND	0.10	
95-50-1	1,2-Dichlorobenzene	ND	0.63	ND	0.10	
5989-27-5	d-Limonene	ND	0.63	ND	0.11	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.63	ND	0.065	
120-82-1	1,2,4-Trichlorobenzene	ND	0.63	ND	0.085	
91-20-3	Naphthalene	ND	0.63	ND	0.12	
87-68-3	Hexachlorobutadiene	ND	0.63	ND	0.059	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J. Shaver *12/2/16* *Opw* *12/14/16*

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-2836CAM
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-001

Test Code: EPA TO-15 Date Collected: 10/18/16
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 10/27/16
 Analyst: Wida Ang Date Analyzed: 11/4/16
 Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
 Test Notes:
 Container ID: AS01031

Initial Pressure (psig): -3.31 Final Pressure (psig): 3.52

Canister Dilution Factor: 1.60

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	1.3	0.80	0.75	0.47	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.5	0.80	0.51	0.16	
74-87-3	Chloromethane	ND	0.80 u	ND	0.39 u	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.80	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.80	ND	0.31	
106-99-0	1,3-Butadiene	ND	0.80	ND	0.36	
74-83-9	Bromomethane	ND	0.80	ND	0.21	
75-00-3	Chloroethane	ND	0.80	ND	0.30	
64-17-5	Ethanol	ND	8.0	ND	4.2	
75-05-8	Acetonitrile	ND	0.80	ND	0.48	
107-02-8	Acrolein	ND	3.2	ND	1.4	
67-64-1	Acetone	ND	8.0	ND	3.4	
75-69-4	Trichlorofluoromethane	1.2	0.80	0.22	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	8.0 u	ND	3.3 u	
107-13-1	Acrylonitrile	ND	0.80	ND	0.37	
75-35-4	1,1-Dichloroethene	ND	0.80	ND	0.20	
75-09-2	Methylene Chloride	ND	0.80	ND	0.23	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.80	ND	0.26	
76-13-1	Trichlorotrifluoroethane	ND	0.80	ND	0.10	
75-15-0	Carbon Disulfide	ND	8.0	ND	2.6	
156-60-5	trans-1,2-Dichloroethene	ND	0.80	ND	0.20	
75-34-3	1,1-Dichloroethane	ND	0.80	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.80	ND	0.22	
108-05-4	Vinyl Acetate	ND	8.0	ND	2.3	
78-93-3	2-Butanone (MEK)	ND	8.0	ND	2.7	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J. M. H. 12/2/16 *gaw* 12/4/16

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 3

Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-2836CAM
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-001

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Wida Ang
 Sample Type: 6.0 L Silonite Canister
 Test Notes:
 Container ID: AS01031

Date Collected: 10/18/16
 Date Received: 10/27/16
 Date Analyzed: 11/4/16
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.31 Final Pressure (psig): 3.52

Canister Dilution Factor: 1.60

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.80	ND	0.20	U
141-78-6	Ethyl Acetate	ND	1.6	ND	0.44	U
110-54-3	n-Hexane	2.9	0.80	0.81	0.23	
67-66-3	Chloroform	ND	0.80	ND	0.16	U
109-99-9	Tetrahydrofuran (THF)	ND	0.80	ND	0.27	
107-06-2	1,2-Dichloroethane	ND	0.80	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.80	ND	0.15	
71-43-2	Benzene	0.89	0.80	0.28	0.25	
56-23-5	Carbon Tetrachloride	ND	0.80	ND	0.13	U
110-82-7	Cyclohexane	ND	1.6	ND	0.47	
78-87-5	1,2-Dichloropropane	ND	0.80	ND	0.17	
75-27-4	Bromodichloromethane	ND	0.80	ND	0.12	
79-01-6	Trichloroethene	ND	0.80	ND	0.15	
123-91-1	1,4-Dioxane	ND	0.80	ND	0.22	
80-62-6	Methyl Methacrylate	ND	1.6	ND	0.39	
142-82-5	n-Heptane	0.89	0.80	0.22	0.20	
10061-01-5	cis-1,3-Dichloropropene	ND	0.80	ND	0.18	U
108-10-1	4-Methyl-2-pentanone	ND	0.80	ND	0.20	
10061-02-6	trans-1,3-Dichloropropene	ND	0.80	ND	0.18	
79-00-5	1,1,2-Trichloroethane	ND	0.80	ND	0.15	
108-88-3	Toluene	2.9	0.80	0.78	0.21	
591-78-6	2-Hexanone	ND	0.80	ND	0.20	U
124-48-1	Dibromochloromethane	ND	0.80	ND	0.094	
106-93-4	1,2-Dibromoethane	ND	0.80	ND	0.10	
123-86-4	n-Butyl Acetate	ND	0.80	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-2836CAM
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-001

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Wida Ang
 Sample Type: 6.0 L Silonite Canister
 Test Notes:
 Container ID: AS01031

Date Collected: 10/18/16
 Date Received: 10/27/16
 Date Analyzed: 11/4/16
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.31 Final Pressure (psig): 3.52

Canister Dilution Factor: 1.60

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.80	ND	0.17	u
127-18-4	Tetrachloroethene	ND	0.80	ND	0.12	
108-90-7	Chlorobenzene	ND	0.80	ND	0.17	
100-41-4	Ethylbenzene	ND	0.80	ND	0.18	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.37	
75-25-2	Bromoform	ND	0.80	ND	0.077	
100-42-5	Styrene	ND	0.80	ND	0.19	
95-47-6	o-Xylene	0.99	0.80	0.23	0.18	
111-84-2	n-Nonane	ND	0.80	ND	0.15	u
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.80	ND	0.12	
98-82-8	Cumene	ND	0.80	ND	0.16	
80-56-8	alpha-Pinene	ND	0.80	ND	0.14	
103-65-1	n-Propylbenzene	ND	0.80	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.80	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.80	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.80	ND	0.16	
100-44-7	Benzyl Chloride	ND	0.80	ND	0.15	
541-73-1	1,3-Dichlorobenzene	ND	0.80	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.80	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.80	ND	0.13	
5989-27-5	d-Limonene	ND	0.80	ND	0.14	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.80	ND	0.083	
120-82-1	1,2,4-Trichlorobenzene	ND	0.80	ND	0.11	
91-20-3	Naphthalene	ND	0.80	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.80	ND	0.075	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 3

Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-2836CAM-FENCE
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-002

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Wida Ang
 Sample Type: 6.0 L Silonite Canister
 Test Notes:
 Container ID: AS00665

Date Collected: 10/18/16
 Date Received: 10/27/16
 Date Analyzed: 11/4/16
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.24 Final Pressure (psig): 3.57

Canister Dilution Factor: 1.59

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.80	ND	0.46	U
75-71-8	Dichlorodifluoromethane (CFC 12)	2.3	0.80	0.47	0.16	U
74-87-3	Chloromethane	ND	0.80	ND	0.39	U
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.80	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.80	ND	0.31	
106-99-0	1,3-Butadiene	ND	0.80	ND	0.36	
74-83-9	Bromomethane	ND	0.80	ND	0.20	
75-00-3	Chloroethane	ND	0.80	ND	0.30	
64-17-5	Ethanol	ND	8.0	ND	4.2	
75-05-8	Acetonitrile	ND	0.80	ND	0.47	
107-02-8	Acrolein	ND	3.2	ND	1.4	
67-64-1	Acetone	ND	8.0	ND	3.3	
75-69-4	Trichlorofluoromethane	1.3	0.80	0.22	0.14	U
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	8.0	ND	3.2	U
107-13-1	Acrylonitrile	ND	0.80	ND	0.37	
75-35-4	1,1-Dichloroethene	ND	0.80	ND	0.20	
75-09-2	Methylene Chloride	ND	0.80	ND	0.23	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.80	ND	0.25	
76-13-1	Trichlorotrifluoroethane	ND	0.80	ND	0.10	
75-15-0	Carbon Disulfide	ND	8.0	ND	2.6	
156-60-5	trans-1,2-Dichloroethene	ND	0.80	ND	0.20	
75-34-3	1,1-Dichloroethane	ND	0.80	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.80	ND	0.22	
108-05-4	Vinyl Acetate	ND	8.0	ND	2.3	
78-93-3	2-Butanone (MEK)	ND	8.0	ND	2.7	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 3

Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-2836CAM-FENCE
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-002

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Wida Ang
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS00665

Date Collected: 10/18/16
 Date Received: 10/27/16
 Date Analyzed: 11/4/16
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.24 Final Pressure (psig): 3.57

Canister Dilution Factor: 1.59

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.80	ND	0.20	U
141-78-6	Ethyl Acetate	ND	1.6	ND	0.44	U
110-54-3	n-Hexane	2.6	0.80	0.73	0.23	
67-66-3	Chloroform	ND	0.80	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	0.80	ND	0.27	
107-06-2	1,2-Dichloroethane	ND	0.80	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.80	ND	0.15	
71-43-2	Benzene	0.88	0.80	0.27	0.25	
56-23-5	Carbon Tetrachloride	ND	0.80	ND	0.13	U
110-82-7	Cyclohexane	ND	1.6	ND	0.46	
78-87-5	1,2-Dichloropropane	ND	0.80	ND	0.17	
75-27-4	Bromodichloromethane	ND	0.80	ND	0.12	
79-01-6	Trichloroethene	ND	0.80	ND	0.15	
123-91-1	1,4-Dioxane	ND	0.80	ND	0.22	
80-62-6	Methyl Methacrylate	ND	1.6	ND	0.39	
142-82-5	n-Heptane	0.84	0.80	0.21	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.80	ND	0.18	U
108-10-1	4-Methyl-2-pentanone	ND	0.80	ND	0.19	
10061-02-6	trans-1,3-Dichloropropene	ND	0.80	ND	0.18	
79-00-5	1,1,2-Trichloroethane	ND	0.80	ND	0.15	
108-88-3	Toluene	2.9	0.80	0.78	0.21	
591-78-6	2-Hexanone	ND	0.80	ND	0.19	U
124-48-1	Dibromochloromethane	ND	0.80	ND	0.093	
106-93-4	1,2-Dibromoethane	ND	0.80	ND	0.10	
123-86-4	n-Butyl Acetate	ND	0.80	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-2836CAM-FENCE
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-002

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Wida Ang
 Sample Type: 6.0 L Silonite Canister
 Test Notes:
 Container ID: AS00665

Date Collected: 10/18/16
 Date Received: 10/27/16
 Date Analyzed: 11/4/16
 Volume(s) Analyzed: 1.00 Liter(s)

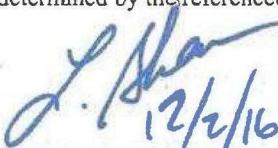
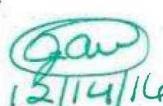
Initial Pressure (psig): -3.24 Final Pressure (psig): 3.57

Canister Dilution Factor: 1.59

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.80	ND	0.17	u
127-18-4	Tetrachloroethene	ND	0.80	ND	0.12	
108-90-7	Chlorobenzene	ND	0.80	ND	0.17	
100-41-4	Ethylbenzene	ND	0.80	ND	0.18	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.37	
75-25-2	Bromoform	ND	0.80	ND	0.077	
100-42-5	Styrene	ND	0.80	ND	0.19	
95-47-6	o-Xylene	ND	0.80	ND	0.18	
111-84-2	n-Nonane	ND	0.80	ND	0.15	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.80	ND	0.12	
98-82-8	Cumene	ND	0.80	ND	0.16	
80-56-8	alpha-Pinene	ND	0.80	ND	0.14	
103-65-1	n-Propylbenzene	ND	0.80	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.80	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.80	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.80	ND	0.16	
100-44-7	Benzyl Chloride	ND	0.80	ND	0.15	
541-73-1	1,3-Dichlorobenzene	ND	0.80	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.80	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.80	ND	0.13	
5989-27-5	d-Limonene	ND	0.80	ND	0.14	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.80	ND	0.082	
120-82-1	1,2,4-Trichlorobenzene	ND	0.80	ND	0.11	
91-20-3	Naphthalene	ND	0.80	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.80	ND	0.075	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.


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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-2836CAM-FENCE2
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-013

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Wida Ang
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: AC01795

Date Collected: 10/20/16
 Date Received: 10/27/16
 Date Analyzed: 11/4/16
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.14 Final Pressure (psig): 3.52

Canister Dilution Factor: 1.45

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	0.74	0.73	0.43	0.42	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.5	0.73	0.50	0.15	
74-87-3	Chloromethane	ND	0.73	ND	0.35	U
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.73	ND	0.10	
75-01-4	Vinyl Chloride	ND	0.73	ND	0.28	
106-99-0	1,3-Butadiene	ND	0.73	ND	0.33	
74-83-9	Bromomethane	ND	0.73	ND	0.19	
75-00-3	Chloroethane	ND	0.73	ND	0.27	
64-17-5	Ethanol	8.5	7.3	4.5	3.8	
75-05-8	Acetonitrile	ND	0.73	ND	0.43	U
107-02-8	Acrolein	ND	2.9	ND	1.3	U
67-64-1	Acetone	9.4	7.3	4.0	3.1	
75-69-4	Trichlorofluoromethane	1.3	0.73	0.23	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	7.3	ND	3.0	U
107-13-1	Acrylonitrile	ND	0.73	ND	0.33	
75-35-4	1,1-Dichloroethene	ND	0.73	ND	0.18	
75-09-2	Methylene Chloride	ND	0.73	ND	0.21	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.73	ND	0.23	
76-13-1	Trichlorotrifluoroethane	ND	0.73	ND	0.095	
75-15-0	Carbon Disulfide	ND	7.3	ND	2.3	
156-60-5	trans-1,2-Dichloroethene	ND	0.73	ND	0.18	
75-34-3	1,1-Dichloroethane	ND	0.73	ND	0.18	
1634-04-4	Methyl tert-Butyl Ether	ND	0.73	ND	0.20	
108-05-4	Vinyl Acetate	ND	7.3	ND	2.1	
78-93-3	2-Butanone (MEK)	ND	7.3	ND	2.5	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 3

Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-2836CAM-FENCE2
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-013

Test Code: EPA TO-15 **Date Collected:** 10/20/16
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 **Date Received:** 10/27/16
Analyst: Wida Ang **Date Analyzed:** 11/4/16
Sample Type: 6.0 L Summa Canister **Volume(s) Analyzed:** 1.00 Liter(s)
Test Notes:
Container ID: AC01795

Initial Pressure (psig): -2.14 Final Pressure (psig): 3.52

Canister Dilution Factor: 1.45

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.73	ND	0.18	u
141-78-6	Ethyl Acetate	1.7	1.5	0.48	0.40	
110-54-3	n-Hexane	1.7	0.73	0.49	0.21	
67-66-3	Chloroform	ND	0.73	ND	0.15	u
109-99-9	Tetrahydrofuran (THF)	ND	0.73	ND	0.25	
107-06-2	1,2-Dichloroethane	ND	0.73	ND	0.18	
71-55-6	1,1,1-Trichloroethane	ND	0.73	ND	0.13	
71-43-2	Benzene	0.98	0.73	0.31	0.23	
56-23-5	Carbon Tetrachloride	ND	0.73	ND	0.12	u
110-82-7	Cyclohexane	ND	1.5	ND	0.42	
78-87-5	1,2-Dichloropropane	ND	0.73	ND	0.16	
75-27-4	Bromodichloromethane	ND	0.73	ND	0.11	
79-01-6	Trichloroethene	0.73	0.73	0.14	0.13	
123-91-1	1,4-Dioxane	ND	0.73	ND	0.20	u
80-62-6	Methyl Methacrylate	ND	1.5	ND	0.35	
142-82-5	n-Heptane	ND	0.73	ND	0.18	
10061-01-5	cis-1,3-Dichloropropene	ND	0.73	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	0.73	ND	0.18	
10061-02-6	trans-1,3-Dichloropropene	ND	0.73	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.73	ND	0.13	
108-88-3	Toluene	3.7	0.73	0.99	0.19	
591-78-6	2-Hexanone	ND	0.73	ND	0.18	u
124-48-1	Dibromochloromethane	ND	0.73	ND	0.085	
106-93-4	1,2-Dibromoethane	ND	0.73	ND	0.094	
123-86-4	n-Butyl Acetate	ND	0.73	ND	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 3 of 3

Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-2836CAM-FENCE2
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-013

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Wida Ang
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: AC01795

Date Collected: 10/20/16
 Date Received: 10/27/16
 Date Analyzed: 11/4/16
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.14 Final Pressure (psig): 3.52

Canister Dilution Factor: 1.45

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.73 u	ND	0.16 u	
127-18-4	Tetrachloroethene	1.0	0.73	0.15	0.11	
108-90-7	Chlorobenzene	ND	0.73 u	ND	0.16 u	
100-41-4	Ethylbenzene	0.82	0.73	0.19	0.17	
179601-23-1	m,p-Xylenes	2.7	1.5	0.62	0.33	
75-25-2	Bromoform	ND	0.73 u	ND	0.070 u	
100-42-5	Styrene	ND	0.73 u	ND	0.17 u	
95-47-6	o-Xylene	0.95	0.73	0.22	0.17	
111-84-2	n-Nonane	ND	0.73 u	ND	0.14 u	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.73	ND	0.11	
98-82-8	Cumene	ND	0.73	ND	0.15	
80-56-8	alpha-Pinene	0.90	0.73	0.16	0.13	
103-65-1	n-Propylbenzene	ND	0.73	ND	0.15 u	
622-96-8	4-Ethyltoluene	ND	0.73	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.73	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.73	ND	0.15	
100-44-7	Benzyl Chloride	ND	0.73	ND	0.14	
541-73-1	1,3-Dichlorobenzene	ND	0.73	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.73	ND	0.12	
95-50-1	1,2-Dichlorobenzene	ND	0.73	ND	0.12	
5989-27-5	d-Limonene	ND	0.73	ND	0.13	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.73	ND	0.075	
120-82-1	1,2,4-Trichlorobenzene	ND	0.73	ND	0.098	
91-20-3	Naphthalene	ND	0.73	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.73	ND	0.068	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 3

Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-28434CAM-REPEAT
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-014

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Wida Ang
 Sample Type: 6.0 L Silonite Canister
 Test Notes:
 Container ID: AS00883

Date Collected: 10/20/16
 Date Received: 10/27/16
 Date Analyzed: 11/4/16
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.65 Final Pressure (psig): 3.72

Canister Dilution Factor: 1.67

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.84 u	ND	0.49 u	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.6	0.84	0.52	0.17	
74-87-3	Chloromethane	ND	0.84 u	ND	0.40 u	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.84	ND	0.12	
75-01-4	Vinyl Chloride	ND	0.84	ND	0.33	
106-99-0	1,3-Butadiene	ND	0.84	ND	0.38	
74-83-9	Bromomethane	ND	0.84	ND	0.22	
75-00-3	Chloroethane	ND	0.84	ND	0.32	
64-17-5	Ethanol	ND	8.4	ND	4.4	
75-05-8	Acetonitrile	ND	0.84	ND	0.50	
107-02-8	Acrolein	ND	3.3	ND	1.5	
67-64-1	Acetone	ND	8.4	ND	3.5	
75-69-4	Trichlorofluoromethane	1.3	0.84	0.23	0.15	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	8.4 u	ND	3.4 u	
107-13-1	Acrylonitrile	ND	0.84 u	ND	0.38 u	
75-35-4	1,1-Dichloroethene	1.7	0.84	0.43	0.21	
75-09-2	Methylene Chloride	ND	0.84 u	ND	0.24 u	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.84	ND	0.27	
76-13-1	Trichlorotrifluoroethane	ND	0.84	ND	0.11	
75-15-0	Carbon Disulfide	ND	8.4	ND	2.7	
156-60-5	trans-1,2-Dichloroethene	ND	0.84 u	ND	0.21	
75-34-3	1,1-Dichloroethane	ND	0.84	ND	0.21	
1634-04-4	Methyl tert-Butyl Ether	ND	0.84	ND	0.23	
108-05-4	Vinyl Acetate	ND	8.4	ND	2.4	
78-93-3	2-Butanone (MEK)	ND	8.4	ND	2.8	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 3

Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-28434CAM-REPEAT
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-014

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Wida Ang
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS00883

Date Collected: 10/20/16
 Date Received: 10/27/16
 Date Analyzed: 11/4/16
 Volume(s) Analyzed: 1.00 Liter(s)

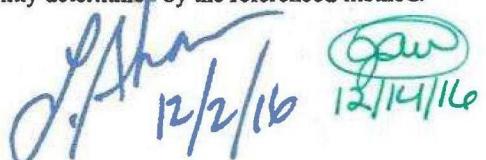
Initial Pressure (psig): -3.65 Final Pressure (psig): 3.72

Canister Dilution Factor: 1.67

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.84	ND	0.21	U
141-78-6	Ethyl Acetate	ND	1.7	ND	0.46	U
110-54-3	n-Hexane	3.5	0.84	0.98	0.24	
67-66-3	Chloroform	ND	0.84	ND	0.17	U
109-99-9	Tetrahydrofuran (THF)	ND	0.84	ND	0.28	
107-06-2	1,2-Dichloroethane	ND	0.84	ND	0.21	
71-55-6	1,1,1-Trichloroethane	ND	0.84	ND	0.15	
71-43-2	Benzene	1.4	0.84	0.45	0.26	
56-23-5	Carbon Tetrachloride	ND	0.84	ND	0.13	U
110-82-7	Cyclohexane	ND	1.7	ND	0.49	
78-87-5	1,2-Dichloropropane	ND	0.84	ND	0.18	
75-27-4	Bromodichloromethane	ND	0.84	ND	0.12	
79-01-6	Trichloroethene	1.5	0.84	0.29	0.16	
123-91-1	1,4-Dioxane	ND	0.84	ND	0.23	U
80-62-6	Methyl Methacrylate	ND	1.7	ND	0.41	
142-82-5	n-Heptane	ND	0.84	ND	0.20	
10061-01-5	cis-1,3-Dichloropropene	ND	0.84	ND	0.18	
108-10-1	4-Methyl-2-pentanone	ND	0.84	ND	0.20	
10061-02-6	trans-1,3-Dichloropropene	ND	0.84	ND	0.18	
79-00-5	1,1,2-Trichloroethane	ND	0.84	ND	0.15	
108-88-3	Toluene	6.5	0.84	1.7	0.22	
591-78-6	2-Hexanone	ND	0.84	ND	0.20	U
124-48-1	Dibromochloromethane	ND	0.84	ND	0.098	
106-93-4	1,2-Dibromoethane	ND	0.84	ND	0.11	
123-86-4	n-Butyl Acetate	ND	0.84	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.



 J. Ang 12/2/16 G.W. 12/14/16

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 3 of 3

Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-28434CAM-REPEAT
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-014

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Wida Ang
 Sample Type: 6.0 L Silonite Canister
 Test Notes:
 Container ID: AS00883

Date Collected: 10/20/16
 Date Received: 10/27/16
 Date Analyzed: 11/4/16
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.65 Final Pressure (psig): 3.72

Canister Dilution Factor: 1.67

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.84 u	ND	0.18 u	
127-18-4	Tetrachloroethene	2.2	0.84	0.32	0.12	
108-90-7	Chlorobenzene	ND	0.84 u	ND	0.18 u	
100-41-4	Ethylbenzene	1.3	0.84	0.29	0.19	
179601-23-1	m,p-Xylenes	4.2	1.7	0.97	0.38	
75-25-2	Bromoform	ND	0.84 u	ND	0.081 u	
100-42-5	Styrene	ND	0.84 u	ND	0.20 u	
95-47-6	o-Xylene	1.6	0.84	0.37	0.19	
111-84-2	n-Nonane	ND	0.84 u	ND	0.16 u	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.84	ND	0.12	
98-82-8	Cumene	ND	0.84	ND	0.17	
80-56-8	alpha-Pinene	ND	0.84	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.84	ND	0.17	
622-96-8	4-Ethyltoluene	ND	0.84	ND	0.17	
108-67-8	1,3,5-Trimethylbenzene	ND	0.84	ND	0.17	
95-63-6	1,2,4-Trimethylbenzene	ND	0.84	ND	0.17	
100-44-7	Benzyl Chloride	ND	0.84	ND	0.16	
541-73-1	1,3-Dichlorobenzene	ND	0.84	ND	0.14	
106-46-7	1,4-Dichlorobenzene	ND	0.84	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.84	ND	0.14	
5989-27-5	d-Limonene	ND	0.84	ND	0.15	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.84	ND	0.086	
120-82-1	1,2,4-Trichlorobenzene	ND	0.84	ND	0.11	
91-20-3	Naphthalene	ND	0.84	ND	0.16	
87-68-3	Hexachlorobutadiene	ND	0.84	ND	0.078	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

12/2/16 *gaw*
 12/14/16

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 3

Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-SG-1407SWAN
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-012

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Wida Ang
 Sample Type: 1.0 L Silonite Summa Canister
 Test Notes:
 Container ID: ISS00141

Date Collected: 10/19/16
 Date Received: 10/27/16
 Date Analyzed: 11/4/16
 Volume(s) Analyzed: 0.025 Liter(s)

Initial Pressure (psig): -2.86 Final Pressure (psig): 6.37

Canister Dilution Factor: 1.78

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	36	ND	21	u
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	36	ND	7.2	
74-87-3	Chloromethane	ND	36	ND	17	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	36	ND	5.1	
75-01-4	Vinyl Chloride	ND	36	ND	14	
106-99-0	1,3-Butadiene	ND	36	ND	16	
74-83-9	Bromomethane	ND	36	ND	9.2	
75-00-3	Chloroethane	ND	36	ND	13	
64-17-5	Ethanol	ND	360	ND	190	
75-05-8	Acetonitrile	ND	36	ND	21	
107-02-8	Acrolein	ND	140	ND	62	
67-64-1	Acetone	ND	360	ND	150	
75-69-4	Trichlorofluoromethane	ND	36	ND	6.3	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	360	ND	140	
107-13-1	Acrylonitrile	ND	36	ND	16	
75-35-4	1,1-Dichloroethene	ND	36	ND	9.0	
75-09-2	Methylene Chloride	ND	36	ND	10	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	36	ND	11	
76-13-1	Trichlorotrifluoroethane	ND	36	ND	4.6	
75-15-0	Carbon Disulfide	ND	360	ND	110	
156-60-5	trans-1,2-Dichloroethene	ND	36	ND	9.0	
75-34-3	1,1-Dichloroethane	ND	36	ND	8.8	
1634-04-4	Methyl tert-Butyl Ether	ND	36	ND	9.9	
108-05-4	Vinyl Acetate	ND	360	ND	100	
78-93-3	2-Butanone (MEK)	ND	360	ND	120	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J. Shaefer 12/2/16 *gw* 12/14/16

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 3

Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-SG-1407SWAN
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-012

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Wida Ang
 Sample Type: 1.0 L Silonite Summa Canister
 Test Notes:
 Container ID: ISS00141

Date Collected: 10/19/16
 Date Received: 10/27/16
 Date Analyzed: 11/4/16
 Volume(s) Analyzed: 0.025 Liter(s)

Initial Pressure (psig): -2.86 Final Pressure (psig): 6.37

Canister Dilution Factor: 1.78

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	36	ND	9.0	u
141-78-6	Ethyl Acetate	ND	71	ND	20	
110-54-3	n-Hexane	ND	36	ND	10	
67-66-3	Chloroform	ND	36	ND	7.3	
109-99-9	Tetrahydrofuran (THF)	ND	36	ND	12	
107-06-2	1,2-Dichloroethane	ND	36	ND	8.8	
71-55-6	1,1,1-Trichloroethane	ND	36	ND	6.5	
71-43-2	Benzene	ND	36	ND	11	
56-23-5	Carbon Tetrachloride	ND	36	ND	5.7	
110-82-7	Cyclohexane	ND	71	ND	21	
78-87-5	1,2-Dichloropropane	ND	36	ND	7.7	
75-27-4	Bromodichloromethane	ND	36	ND	5.3	
79-01-6	Trichloroethene	ND	36	ND	6.6	
123-91-1	1,4-Dioxane	ND	36	ND	9.9	
80-62-6	Methyl Methacrylate	ND	71	ND	17	
142-82-5	n-Heptane	ND	36	ND	8.7	
10061-01-5	cis-1,3-Dichloropropene	ND	36	ND	7.8	
108-10-1	4-Methyl-2-pentanone	ND	36	ND	8.7	
10061-02-6	trans-1,3-Dichloropropene	ND	36	ND	7.8	
79-00-5	1,1,2-Trichloroethane	ND	36	ND	6.5	
108-88-3	Toluene	ND	36	ND	9.5	
591-78-6	2-Hexanone	ND	36	ND	8.7	
124-48-1	Dibromochloromethane	ND	36	ND	4.2	
106-93-4	1,2-Dibromoethane	ND	36	ND	4.6	
123-86-4	n-Butyl Acetate	ND	36	ND	7.5	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 3 of 3

Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-SG-1407SWAN
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-012

Test Code: EPA TO-15 **Date Collected:** 10/19/16
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 **Date Received:** 10/27/16
Analyst: Wida Ang **Date Analyzed:** 11/4/16
Sample Type: 1.0 L Silonite Summa Canister **Volume(s) Analyzed:** 0.025 Liter(s)
Test Notes:
Container ID: ISS00141

Initial Pressure (psig): -2.86 Final Pressure (psig): 6.37

Canister Dilution Factor: 1.78

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	36 <u>4</u>	ND	7.6 <u>4</u>	
127-18-4	Tetrachloroethene	36 <u>0</u>	36	53	5.3	
108-90-7	Chlorobenzene	ND	36 <u>4</u>	ND	7.7	
100-41-4	Ethylbenzene	ND	36	ND	8.2	
179601-23-1	m,p-Xylenes	ND	71	ND	16	
75-25-2	Bromoform	ND	36	ND	3.4	
100-42-5	Styrene	ND	36	ND	8.4	
95-47-6	o-Xylene	ND	36	ND	8.2	
111-84-2	n-Nonane	ND	36	ND	6.8	
79-34-5	1,1,2,2-Tetrachloroethane	ND	36	ND	5.2	
98-82-8	Cumene	ND	36	ND	7.2	
80-56-8	alpha-Pinene	5,000	36	910	6.4	
103-65-1	n-Propylbenzene	ND	36 <u>4</u>	ND	7.2	
622-96-8	4-Ethyltoluene	ND	36	ND	7.2	
108-67-8	1,3,5-Trimethylbenzene	ND	36	ND	7.2	
95-63-6	1,2,4-Trimethylbenzene	ND	36	ND	7.2	
100-44-7	Benzyl Chloride	ND	36	ND	6.9	
541-73-1	1,3-Dichlorobenzene	ND	36	ND	5.9	
106-46-7	1,4-Dichlorobenzene	ND	36	ND	5.9	
95-50-1	1,2-Dichlorobenzene	ND	36	ND	5.9	
5989-27-5	d-Limonene	1,100	36	190	6.4	
96-12-8	1,2-Dibromo-3-chloropropane	ND	36 <u>4</u>	ND	3.7	
120-82-1	1,2,4-Trichlorobenzene	ND	36	ND	4.8	
91-20-3	Naphthalene	ND	36	ND	6.8	
87-68-3	Hexachlorobutadiene	ND	36	ND	3.3	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J. Shaefer 12/2/16 *Open* 12/14/16

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 3

Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-SG-2836CAM
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-009

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Wida Ang
Sample Type: 1.0 L Summa Canister
Test Notes:
Container ID: 1SC01258

Date Collected: 10/19/16
 Date Received: 10/27/16
 Date Analyzed: 11/4/16
 Volume(s) Analyzed: 0.040 Liter(s)
 0.015 Liter(s)

Initial Pressure (psig): -2.64 Final Pressure (psig): 5.17

Canister Dilution Factor: 1.65

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	21	ND	12	U
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	21	ND	4.2	
74-87-3	Chloromethane	ND	21	ND	10	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	21	ND	3.0	
75-01-4	Vinyl Chloride	ND	21	ND	8.1	
106-99-0	1,3-Butadiene	ND	21	ND	9.3	
74-83-9	Bromomethane	ND	21	ND	5.3	
75-00-3	Chloroethane	ND	21	ND	7.8	
64-17-5	Ethanol	ND	210	ND	110	
75-05-8	Acetonitrile	ND	21	ND	12	
107-02-8	Acrolein	ND	83	ND	36	
67-64-1	Acetone	ND	210	ND	87	
75-69-4	Trichlorofluoromethane	ND	21	ND	3.7	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	210	ND	84	
107-13-1	Acrylonitrile	ND	21	ND	9.5	
75-35-4	1,1-Dichloroethene	3,400	21	860	5.2	
75-09-2	Methylene Chloride	ND	21	ND	5.9	U
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	21	ND	6.6	U
76-13-1	Trichlorotrifluoroethane	53	21	6.9	2.7	
75-15-0	Carbon Disulfide	ND	210	ND	66	U
156-60-5	trans-1,2-Dichloroethene	ND	21	ND	5.2	U
75-34-3	1,1-Dichloroethane	250	21	62	5.1	
1634-04-4	Methyl tert-Butyl Ether	ND	21	ND	5.7	U
108-05-4	Vinyl Acetate	ND	210	ND	59	
78-93-3	2-Butanone (MEK)	ND	210	ND	70	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

L. Ang
 12/2/16 *gaw*
 12/14/16

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 3

Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-SG-2836CAM
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-009

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Wida Ang
 Sample Type: 1.0 L Summa Canister
 Test Notes:
 Container ID: 1SC01258

Date Collected: 10/19/16
 Date Received: 10/27/16
 Date Analyzed: 11/4/16
 Volume(s) Analyzed: 0.040 Liter(s)
 0.015 Liter(s)

Initial Pressure (psig): -2.64 Final Pressure (psig): 5.17

Canister Dilution Factor: 1.65

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	21	ND	5.2	4
141-78-6	Ethyl Acetate	ND	41	ND	11	
110-54-3	n-Hexane	ND	21	ND	5.9	
67-66-3	Chloroform	26	21	5.3	4.2	
109-99-9	Tetrahydrofuran (THF)	ND	21	ND	7.0	4
107-06-2	1,2-Dichloroethane	ND	21	ND	5.1	
71-55-6	1,1,1-Trichloroethane	280	21	51	3.8	
71-43-2	Benzene	ND	21	ND	6.5	4
56-23-5	Carbon Tetrachloride	ND	21	ND	3.3	
110-82-7	Cyclohexane	ND	41	ND	12	
78-87-5	1,2-Dichloropropane	ND	21	ND	4.5	
75-27-4	Bromodichloromethane	ND	21	ND	3.1	
79-01-6	Trichloroethene	180	21	33	3.8	
123-91-1	1,4-Dioxane	ND	21	ND	5.7	4
80-62-6	Methyl Methacrylate	ND	41	ND	10	
142-82-5	n-Heptane	ND	21	ND	5.0	
10061-01-5	cis-1,3-Dichloropropene	ND	21	ND	4.5	
108-10-1	4-Methyl-2-pentanone	ND	21	ND	5.0	
10061-02-6	trans-1,3-Dichloropropene	ND	21	ND	4.5	
79-00-5	1,1,2-Trichloroethane	ND	21	ND	3.8	
108-88-3	Toluene	ND	21	ND	5.5	
591-78-6	2-Hexanone	ND	21	ND	5.0	
124-48-1	Dibromochloromethane	ND	21	ND	2.4	
106-93-4	1,2-Dibromoethane	ND	21	ND	2.7	
123-86-4	n-Butyl Acetate	ND	21	ND	4.3	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J. Ang 12/2/16 *Jaw* 12/14/16

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 3 of 3

Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-SG-2836CAM
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-009

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Wida Ang
 Sample Type: 1.0 L Summa Canister
 Test Notes:
 Container ID: 1SC01258

Date Collected: 10/19/16
 Date Received: 10/27/16
 Date Analyzed: 11/4/16
 Volume(s) Analyzed: 0.040 Liter(s)
 0.015 Liter(s)

Initial Pressure (psig): -2.64 Final Pressure (psig): 5.17

Canister Dilution Factor: 1.65

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	21	ND	4.4	U
127-18-4	Tetrachloroethene	3,300	21	490	3.0	
108-90-7	Chlorobenzene	ND	21	ND	4.5	U
100-41-4	Ethylbenzene	26	21	6.0	4.8	
179601-23-1	m,p-Xylenes	ND	41	ND	9.5	U
75-25-2	Bromoform	ND	21	ND	2.0	U
100-42-5	Styrene	92	21	22	4.8	
95-47-6	o-Xylene	ND	21	ND	4.8	U
111-84-2	n-Nonane	ND	21	ND	3.9	
79-34-5	1,1,2,2-Tetrachloroethane	ND	21	ND	3.0	
98-82-8	Cumene	ND	21	ND	4.2	
80-56-8	alpha-Pinene	9,300	55	1,700	9.9	D
103-65-1	n-Propylbenzene	ND	21	ND	4.2	
622-96-8	4-Ethyltoluene	ND	21	ND	4.2	
108-67-8	1,3,5-Trimethylbenzene	ND	21	ND	4.2	
95-63-6	1,2,4-Trimethylbenzene	ND	21	ND	4.2	
100-44-7	Benzyl Chloride	ND	21	ND	4.0	
541-73-1	1,3-Dichlorobenzene	ND	21	ND	3.4	
106-46-7	1,4-Dichlorobenzene	ND	21	ND	3.4	
95-50-1	1,2-Dichlorobenzene	ND	21	ND	3.4	
5989-27-5	d-Limonene	ND	21	ND	3.7	
96-12-8	1,2-Dibromo-3-chloropropane	ND	21	ND	2.1	
120-82-1	1,2,4-Trichlorobenzene	ND	21	ND	2.8	
91-20-3	Naphthalene	ND	21	ND	3.9	
87-68-3	Hexachlorobutadiene	ND	21	ND	1.9	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

D = The reported result is from a dilution.

J.W. 12/2/16 *Jaw* 12/14/16

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 3

Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-SG-2836CAM-SPLIT
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-010

Test Code:	EPA TO-15	Date Collected:	10/19/16
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8	Date Received:	10/27/16
Analyst:	Wida Ang	Date Analyzed:	11/4/16
Sample Type:	1.0 L Summa Canister	Volume(s) Analyzed:	0.040 Liter(s)
Test Notes:			0.015 Liter(s)
Container ID:	1SC01265		

Initial Pressure (psig): -1.67 Final Pressure (psig): 5.72

Canister Dilution Factor: 1.57

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	29	20	17	11	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	20	ND	4.0	4
74-87-3	Chloromethane	ND	20	ND	9.5	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	20	ND	2.8	
75-01-4	Vinyl Chloride	ND	20	ND	7.7	
106-99-0	1,3-Butadiene	ND	20	ND	8.9	
74-83-9	Bromomethane	ND	20	ND	5.1	
75-00-3	Chloroethane	ND	20	ND	7.4	
64-17-5	Ethanol	ND	200	ND	100	
75-05-8	Acetonitrile	ND	20	ND	12	
107-02-8	Acrolein	ND	79	ND	34	
67-64-1	Acetone	ND	200	ND	83	
75-69-4	Trichlorofluoromethane	ND	20	ND	3.5	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	200	ND	80	
107-13-1	Acrylonitrile	ND	20	ND	9.0	
75-35-4	1,1-Dichloroethene	3,500	20	880	5.0	
75-09-2	Methylene Chloride	ND	20	ND	5.7	4
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	20	ND	6.3	4
76-13-1	Trichlorotrifluoroethane	55	20	71	2.6	
75-15-0	Carbon Disulfide	ND	200	ND	63	4
156-60-5	trans-1,2-Dichloroethene	ND	20	ND	5.0	4
75-34-3	1,1-Dichloroethane	260	20	65	4.9	
1634-04-4	Methyl tert-Butyl Ether	ND	20	ND	5.4	4
108-05-4	Vinyl Acetate	ND	200	ND	56	
78-93-3	2-Butanone (MEK)	ND	200	ND	67	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J. Shealy
 12/2/16 *Spaw* 12/14/16

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 3

Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-SG-2836CAM-SPLIT
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-010

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Wida Ang
 Sample Type: 1.0 L Summa Canister
 Test Notes:
 Container ID: ISC01265

Date Collected: 10/19/16
 Date Received: 10/27/16
 Date Analyzed: 11/4/16
 Volume(s) Analyzed: 0.040 Liter(s)
 0.015 Liter(s)

Initial Pressure (psig): -1.67 Final Pressure (psig): 5.72

Canister Dilution Factor: 1.57

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	20	4	ND	5.0 u
141-78-6	Ethyl Acetate	ND	39	11	ND	11
110-54-3	n-Hexane	ND	20	ND	ND	5.6 u
67-66-3	Chloroform	27	20	5.5	ND	4.0
109-99-9	Tetrahydrofuran (THF)	ND	20	4	ND	6.7 u
107-06-2	1,2-Dichloroethane	ND	20	u	ND	4.9 u
71-55-6	1,1,1-Trichloroethane	300	20	55	ND	3.6
71-43-2	Benzene	ND	20	4	ND	6.1 u
56-23-5	Carbon Tetrachloride	ND	20	ND	ND	3.1
110-82-7	Cyclohexane	ND	39	ND	ND	11
78-87-5	1,2-Dichloropropane	ND	20	1	ND	4.2
75-27-4	Bromodichloromethane	ND	20	ND	ND	2.9
79-01-6	Trichloroethylene	180	20	33	ND	3.7
123-91-1	1,4-Dioxane	ND	20	u	ND	5.4 u
80-62-6	Methyl Methacrylate	ND	39	ND	ND	9.6
142-82-5	n-Heptane	ND	20	ND	ND	4.8
10061-01-5	cis-1,3-Dichloropropene	ND	20	ND	ND	4.3
108-10-1	4-Methyl-2-pentanone	ND	20	ND	ND	4.8
10061-02-6	trans-1,3-Dichloropropene	ND	20	ND	ND	4.3
79-00-5	1,1,2-Trichloroethane	ND	20	ND	ND	3.6
108-88-3	Toluene	25	20	6.7	ND	5.2
591-78-6	2-Hexanone	ND	20	ND	ND	4.8 u
124-48-1	Dibromochloromethane	ND	20	ND	ND	2.3
106-93-4	1,2-Dibromoethane	ND	20	ND	ND	2.6
123-86-4	n-Butyl Acetate	ND	20	ND	ND	4.1

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J. Shaefer, 12/2/16
gaw, 12/14/16

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 3 of 3

Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-SG-2836CAM-SPLIT
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-010

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Wida Ang
 Sample Type: 1.0 L Summa Canister
 Test Notes:
 Container ID: 1SC01265

Date Collected: 10/19/16
 Date Received: 10/27/16
 Date Analyzed: 11/4/16
 Volume(s) Analyzed: 0.040 Liter(s)
 0.015 Liter(s)

Initial Pressure (psig): -1.67 Final Pressure (psig): 5.72

Canister Dilution Factor: 1.57

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	20 u	ND	4.2 u	
127-18-4	Tetrachloroethene	3,500	20	510	2.9	
108-90-7	Chlorobenzene	ND	20 u	ND	4.3 u	
100-41-4	Ethylbenzene	27	20	6.3	4.5	
179601-23-1	m,p-Xylenes	ND	39 u	ND	9.0 u	
75-25-2	Bromoform	ND	20 u	ND	1.9 u	
100-42-5	Styrene	100	20	24	4.6	
95-47-6	o-Xylene	ND	20 u	ND	4.5 u	
111-84-2	n-Nonane	ND	20	ND	3.7	
79-34-5	1,1,2,2-Tetrachloroethane	ND	20	ND	2.9	
98-82-8	Cumene	ND	20	ND	4.0	
80-56-8	alpha-Pinene	10,000	52	1,800	9.4	b
103-65-1	n-Propylbenzene	ND	20 u	ND	4.0 u	
622-96-8	4-Ethyltoluene	ND	20	ND	4.0	
108-67-8	1,3,5-Trimethylbenzene	ND	20	ND	4.0	
95-63-6	1,2,4-Trimethylbenzene	ND	20	ND	4.0	
100-44-7	Benzyl Chloride	ND	20	ND	3.8	
541-73-1	1,3-Dichlorobenzene	ND	20	ND	3.3	
106-46-7	1,4-Dichlorobenzene	ND	20	ND	3.3	
95-50-1	1,2-Dichlorobenzene	ND	20	ND	3.3	
5989-27-5	d-Limonene	ND	20	ND	3.5	
96-12-8	1,2-Dibromo-3-chloropropane	ND	20	ND	2.0	
120-82-1	1,2,4-Trichlorobenzene	ND	20	ND	2.6	
91-20-3	Naphthalene	ND	20	ND	3.7	
87-68-3	Hexachlorobutadiene	ND	20	ND	1.8	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 3

Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-SG-DITCH
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-011

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
 Analyst: Wida Ang
 Sample Type: 1.0 L Summa Canister
 Test Notes:
 Container ID: 1SC00970

Date Collected: 10/19/16
 Date Received: 10/27/16
 Date Analyzed: 11/4/16
 Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -2.46 Final Pressure (psig): 7.28

Canister Dilution Factor: 1.80

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	2.3	ND	1.3	u
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	2.3	ND	0.46	1
74-87-3	Chloromethane	ND	2.3	ND	1.1	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	2.3	ND	0.32	
75-01-4	Vinyl Chloride	ND	2.3	ND	0.88	
106-99-0	1,3-Butadiene	ND	2.3	ND	1.0	
74-83-9	Bromomethane	ND	2.3	ND	0.58	
75-00-3	Chloroethane	ND	2.3	ND	0.85	
64-17-5	Ethanol	ND	2.3	ND	12	
75-05-8	Acetonitrile	ND	2.3	ND	1.3	
107-02-8	Acrolein	ND	9.0	ND	3.9	
67-64-1	Acetone	35	2.3	15	9.5	
75-69-4	Trichlorofluoromethane	2.6	2.3	0.46	0.40	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	2.3	ND	9.2	u
107-13-1	Acrylonitrile	ND	2.3	ND	1.0	u
75-35-4	1,1-Dichloroethene	3.0	2.3	0.77	0.57	
75-09-2	Methylene Chloride	ND	2.3	ND	0.65	u
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	2.3	ND	0.72	
76-13-1	Trichlorotrifluoroethane	ND	2.3	ND	0.29	
75-15-0	Carbon Disulfide	ND	2.3	ND	7.2	
156-60-5	trans-1,2-Dichloroethene	ND	2.3	ND	0.57	
75-34-3	1,1-Dichloroethane	ND	2.3	ND	0.56	
1634-04-4	Methyl tert-Butyl Ether	ND	2.3	ND	0.62	
108-05-4	Vinyl Acetate	ND	2.3	ND	6.4	
78-93-3	2-Butanone (MEK)	ND	2.3	ND	7.6	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J. Shan
12/2/16

jaw
12/14/16

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 3

Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-SG-DITCH
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-011

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Wida Ang
Sample Type: 1.0 L Summa Canister
Test Notes:
Container ID: 1SC00970

Date Collected: 10/19/16
 Date Received: 10/27/16
 Date Analyzed: 11/4/16
 Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -2.46 Final Pressure (psig): 7.28

Canister Dilution Factor: 1.80

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	2.3	ND	0.57	u
141-78-6	Ethyl Acetate	ND	4.5	ND	1.2	
110-54-3	n-Hexane	ND	2.3	ND	0.64	
67-66-3	Chloroform	ND	2.3	ND	0.46	
109-99-9	Tetrahydrofuran (THF)	2.4	2.3	0.82	0.76	
107-06-2	1,2-Dichloroethane	ND	2.3	ND	0.56	u
71-55-6	1,1,1-Trichloroethane	ND	2.3	ND	0.41	
71-43-2	Benzene	ND	2.3	ND	0.70	
56-23-5	Carbon Tetrachloride	ND	2.3	ND	0.36	
110-82-7	Cyclohexane	ND	4.5	ND	1.3	
78-87-5	1,2-Dichloropropane	ND	2.3	ND	0.49	
75-27-4	Bromodichloromethane	ND	2.3	ND	0.34	
79-01-6	Trichloroethene	15	2.3	2.8	0.42	
123-91-1	1,4-Dioxane	ND	2.3	ND	0.62	u
80-62-6	Methyl Methacrylate	ND	4.5	ND	1.1	
142-82-5	n-Heptane	ND	2.3	ND	0.55	
10061-01-5	cis-1,3-Dichloropropene	ND	2.3	ND	0.50	
108-10-1	4-Methyl-2-pentanone	ND	2.3	ND	0.55	
10061-02-6	trans-1,3-Dichloropropene	ND	2.3	ND	0.50	
79-00-5	1,1,2-Trichloroethane	ND	2.3	ND	0.41	
108-88-3	Toluene	ND	2.3	ND	0.60	
591-78-6	2-Hexanone	ND	2.3	ND	0.55	
124-48-1	Dibromochloromethane	ND	2.3	ND	0.26	
106-93-4	1,2-Dibromoethane	ND	2.3	ND	0.29	
123-86-4	n-Butyl Acetate	ND	2.3	ND	0.47	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J. Shear 12/2/16 *gaw* 12/14/16

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 3 of 3

Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-SG-DITCH
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-011

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Wida Ang
Sample Type: 1.0 L Summa Canister
Test Notes:
Container ID: 1SC00970

Date Collected: 10/19/16
 Date Received: 10/27/16
 Date Analyzed: 11/4/16
 Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -2.46 Final Pressure (psig): 7.28

Canister Dilution Factor: 1.80

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	2.3	ND	0.48	u
127-18-4	Tetrachloroethene	150	2.3	22	0.33	u
108-90-7	Chlorobenzene	ND	2.3	ND	0.49	u
100-41-4	Ethylbenzene	ND	2.3	ND	0.52	
179601-23-1	m,p-Xylenes	ND	4.5	ND	1.0	
75-25-2	Bromoform	ND	2.3	ND	0.22	
100-42-5	Styrene	ND	2.3	ND	0.53	
95-47-6	o-Xylene	ND	2.3	ND	0.52	
111-84-2	n-Nonane	ND	2.3	ND	0.43	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.3	ND	0.33	
98-82-8	Cumene	ND	2.3	ND	0.46	
80-56-8	alpha-Pinene	6.0	2.3	1.1	0.40	
103-65-1	n-Propylbenzene	ND	2.3	ND	0.46	
622-96-8	4-Ethyltoluene	ND	2.3	ND	0.46	
108-67-8	1,3,5-Trimethylbenzene	ND	2.3	ND	0.46	
95-63-6	1,2,4-Trimethylbenzene	ND	2.3	ND	0.46	
100-44-7	Benzyl Chloride	ND	2.3	ND	0.43	
541-73-1	1,3-Dichlorobenzene	ND	2.3	ND	0.37	
106-46-7	1,4-Dichlorobenzene	ND	2.3	ND	0.37	
95-50-1	1,2-Dichlorobenzene	ND	2.3	ND	0.37	
5989-27-5	d-Limonene	ND	2.3	ND	0.40	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.3	ND	0.23	
120-82-1	1,2,4-Trichlorobenzene	ND	2.3	ND	0.30	
91-20-3	Naphthalene	ND	2.3	ND	0.43	
87-68-3	Hexachlorobutadiene	ND	2.3	ND	0.21	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J. She 12/2/16 *gw* 12/14/16



DATA VALIDATION CHECKLIST – STAGE 2A

(Page 1 of 5)

Site Name	Patterson Street Solvent Spill	Project No.	TT-02-025
Data Reviewer (signature and date)	 November 20, 2016	Technical Reviewer (signature and date)	 December 14, 2016
Laboratory Report No.	RJ20010	Laboratory	Shealy Environmental Services, Inc
Analyses	Volatile Organic Compounds (VOCs) by SW-846 8260B		
Samples	PSS-GW-275, PSS-GW-MW30, PSS-GW-MW295, PSS-GW-MW3351, PSS-SW-01, PSS-SW-02, PSS-SW-03, PSS-SW-04, PSS-SW-05, and PSS-SW-06		
Field Duplicate Pairs	PSS-SW-06/PSS-SW-06-DUP and PSS-GW-MW3351/PSS-GW-MW3351-DUP		
Field Blanks	PSS-FB and TRIP BLANK		

This checklist summarizes the Stage 2A validation performed on the subject laboratory report, in accordance with the Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the EPA *National Functional Guidelines (NFG) for Inorganic Superfund Data Review* (August 2014) data validation guidance document, as well as the above referenced methods.

OVERALL EVALUATION:

Some results were qualified due to percent recoveries within the matrix spike/matrix spike duplicates. The data can be used with the qualifications indicated in this checklist.

Data completeness:

Within Criteria	Exceedance/Notes
Y	

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
Y	



DATA VALIDATION CHECKLIST – STAGE 2A

(Page 2 of 5)

Method blanks:

Within Criteria	Exceedance/Notes
Y	

Field blanks:

Within Criteria	Exceedance/Notes
Y	

System monitoring compounds (surrogates and labeled compounds):

Within Criteria	Exceedance/Notes
Y	

MS/MSD:

Within Criteria	Exceedance/Notes
N	PSS-GW-MW30: High %R for tetrachloroethene – flag “J+” PSS-SW-04: High %Rs for cyclohexane – no flag (associated results non-detect)

Post digestion spikes:

Within Criteria	Exceedance/Notes
NA	



DATA VALIDATION CHECKLIST – STAGE 2A

(Page 3 of 5)

Serial dilutions:

Within Criteria	Exceedance/Notes
NA	

Laboratory duplicates:

Within Criteria	Exceedance/Notes
NA	

Field duplicates:

Within Criteria	Exceedance/Notes
Y	

Total versus dissolved metals results evaluation:

Within Criteria	Exceedance/Notes
NA	

LCSs/LCSDs:

Within Criteria	Exceedance/Notes
Y	



DATA VALIDATION CHECKLIST – STAGE 2A

(Page 4 of 5)

Toxicity equivalents (TEQs) and isomer specificity (dioxins/furans, cBaP, and PCB congeners only):

Within Criteria	Exceedance/Notes
NA	

Sample dilutions:

Within Criteria	Exceedance/Notes
Y	5x: VOCs for PSS-SW-01 20x: VOCs for PSS-GW-275

Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
NA	

Estimated detection limit (EDL) and estimated maximum possible concentration (EMPC) (dioxins/furans only):

Within Criteria	Exceedance/Notes
NA	

MDLs/RLs:

Within Criteria	Exceedance/Notes
Y	Results between MDL and RL – flagged “J”



DATA VALIDATION CHECKLIST – STAGE 2A

(Page 5 of 5)

Tentatively identified compounds:

Within Criteria	Exceedance/Notes
NA	

Overall Qualifications:

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

J	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.
J+	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.
J-	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.
NJ	The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated value is the approximate concentration of the analyte in the sample.
R	The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.
U	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).
UJ	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria.

Volatile Organic Compounds by GC/MS

Client: Tetra Tech EM Inc.	Laboratory ID: RJ20010-010
Description: PSS-GW-275	Matrix: Aqueous
Date Sampled: 10/18/2016 1610	
Date Received: 10/20/2016	

Run 1	Prep Method 5030B	Analytical Method 8260B	Dilution 20	Analysis Date 10/21/2016 1733	Analyst TML	Prep Date	Batch 24888		
Parameter		CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone		67-64-1	8260B	ND		200	40	ug/L	1
Benzene		71-43-2	8260B	ND		10	8.0	ug/L	1
Bromochloromethane		74-97-5	8260B	ND		10	8.0	ug/L	1
Bromodichloromethane		75-27-4	8260B	ND		10	8.0	ug/L	1
Bromoform		75-25-2	8260B	ND		10	8.0	ug/L	1
Bromomethane (Methyl bromide)		74-83-9	8260B	ND		10	8.0	ug/L	1
2-Butanone (MEK)		78-93-3	8260B	ND		200	40	ug/L	1
Carbon disulfide		75-15-0	8260B	ND		10	8.0	ug/L	1
Carbon tetrachloride		56-23-5	8260B	ND		10	8.0	ug/L	1
Chlorobenzene		108-90-7	8260B	ND		10	8.0	ug/L	1
Chloroethane		75-00-3	8260B	ND		10	8.0	ug/L	1
Chloroform		67-66-3	8260B	ND		10	8.0	ug/L	1
Chloromethane (Methyl chloride)		74-87-3	8260B	ND		10	8.0	ug/L	1
Cyclohexane		110-82-7	8260B	ND		10	8.0	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)		96-12-8	8260B	ND		10	8.0	ug/L	1
Dibromochloromethane		124-48-1	8260B	ND		10	8.0	ug/L	1
1,2-Dibromoethane (EDB)		106-93-4	8260B	ND		10	8.0	ug/L	1
1,2-Dichlorobenzene		95-50-1	8260B	ND		10	8.0	ug/L	1
1,3-Dichlorobenzene		541-73-1	8260B	ND		10	8.0	ug/L	1
1,4-Dichlorobenzene		106-46-7	8260B	ND		10	8.0	ug/L	1
Dichlorodifluoromethane		75-71-8	8260B	ND		10	8.0	ug/L	1
1,1-Dichloroethane		75-34-3	8260B	ND		10	8.0	ug/L	1
1,2-Dichloroethane		107-06-2	8260B	ND		10	8.0	ug/L	1
1,1-Dichloroethylene		75-35-4	8260B	69		10	8.0	ug/L	1
cis-1,2-Dichloroethylene		156-59-2	8260B	66		10	8.0	ug/L	1
trans-1,2-Dichloroethylene		156-60-5	8260B	ND		10	8.0	ug/L	1
1,2-Dichloropropane		78-87-5	8260B	ND		10	8.0	ug/L	1
cis-1,3-Dichloropropene		10061-01-5	8260B	ND		10	8.0	ug/L	1
trans-1,3-Dichloropropene		10061-02-6	8260B	ND		10	8.0	ug/L	1
1,4-Dioxane		123-91-1	8260B	ND		400	270	ug/L	1
Ethylbenzene		100-41-4	8260B	ND		10	8.0	ug/L	1
2-Hexanone		591-78-6	8260B	ND		200	40	ug/L	1
Isopropylbenzene		98-82-8	8260B	ND		10	8.0	ug/L	1
Methyl acetate		79-20-9	8260B	ND		20	8.0	ug/L	1
Methyl tertiary butyl ether (MTBE)		1634-04-4	8260B	ND		10	8.0	ug/L	1
4-Methyl-2-pentanone		108-10-1	8260B	ND		200	40	ug/L	1
Methylcyclohexane		108-87-2	8260B	ND		100	8.0	ug/L	1
Methylene chloride		75-09-2	8260B	ND		10	8.0	ug/L	1
Styrene		100-42-5	8260B	ND		10	8.0	ug/L	1
1,1,2,2-Tetrachloroethane		79-34-5	8260B	ND		10	8.0	ug/L	1
Tetrachloroethylene		127-18-4	8260B	850		10	8.0	ug/L	1
Toluene		108-88-3	8260B	ND		10	8.0	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane		76-13-1	8260B	ND		10	8.0	ug/L	1
1,2,3-Trichlorobenzene		87-61-6	8260B	ND		10	8.0	ug/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Volatile Organic Compounds by GC/MS

Client:Tetra Tech EM Inc.	Laboratory ID:RJ20010-010
Description: PSS-GW-275	Matrix: Aqueous
Date Sampled:10/18/2016 1610	
Date Received:10/20/2016	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	
1	5030B	8260B	20	10/21/2016 1733	TML		24888	
Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		10	8.0	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		10	8.0	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		10	8.0	ug/L	1
Trichloroethene	79-01-6	8260B	360		10	8.0	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		10	8.0	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		10	8.0	ug/L	1
m+p - Xylenes	179601-23-1	8260B	ND		10	8.0	ug/L	1
o - Xylenes	95-47-6	8260B	ND		10	8.0	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits					
1,2-Dichloroethane-d4		102	70-130					
Bromofluorobenzene		99	70-130					
Toluene-d8		103	70-130					

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 ND = Not detected at or above the MDL J = Estimated result < PQL and \geq MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"


 11/22/16

Volatile Organic Compounds by GC/MS

Client: Tetra Tech EM Inc.

Laboratory ID: RJ20010-004

Description: PSS-GW-MW30

Matrix: Aqueous

Date Sampled: 10/18/2016 1115

Date Received: 10/20/2016

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260B	1	10/21/2016	1257 TML		24888		
Parameter		CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone		67-64-1	8260B	ND		10	2.0	ug/L	1
Benzene		71-43-2	8260B	ND		0.50	0.40	ug/L	1
Bromochloromethane		74-97-5	8260B	ND		0.50	0.40	ug/L	1
Bromodichloromethane		75-27-4	8260B	ND		0.50	0.40	ug/L	1
Bromoform		75-25-2	8260B	ND		0.50	0.40	ug/L	1
Bromomethane (Methyl bromide)		74-83-9	8260B	ND		0.50	0.40	ug/L	1
2-Butanone (MEK)		78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide		75-15-0	8260B	ND		0.50	0.40	ug/L	1
Carbon tetrachloride		56-23-5	8260B	ND		0.50	0.40	ug/L	1
Chlorobenzene		108-90-7	8260B	ND		0.50	0.40	ug/L	1
Chloroethane		75-00-3	8260B	ND		0.50	0.40	ug/L	1
Chloroform		67-66-3	8260B	ND		0.50	0.40	ug/L	1
Chloromethane (Methyl chloride)		74-87-3	8260B	ND		0.50	0.40	ug/L	1
Cyclohexane		110-82-7	8260B	ND		0.50	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)		96-12-8	8260B	ND		0.50	0.40	ug/L	1
Dibromochloromethane		124-48-1	8260B	ND		0.50	0.40	ug/L	1
1,2-Dibromoethane (EDB)		106-93-4	8260B	ND		0.50	0.40	ug/L	1
1,2-Dichlorobenzene		95-50-1	8260B	ND		0.50	0.40	ug/L	1
1,3-Dichlorobenzene		541-73-1	8260B	ND		0.50	0.40	ug/L	1
1,4-Dichlorobenzene		106-46-7	8260B	ND		0.50	0.40	ug/L	1
Dichlorodifluoromethane		75-71-8	8260B	ND		0.50	0.40	ug/L	1
1,1-Dichloroethane		75-34-3	8260B	ND		0.50	0.40	ug/L	1
1,2-Dichloroethane		107-06-2	8260B	ND		0.50	0.40	ug/L	1
1,1-Dichloroethene		75-35-4	8260B	1.4		0.50	0.40	ug/L	1
cis-1,2-Dichloroethene		156-59-2	8260B	0.43	J	0.50	0.40	ug/L	1
trans-1,2-Dichloroethene		156-60-5	8260B	ND		0.50	0.40	ug/L	1
1,2-Dichloropropane		78-87-5	8260B	ND		0.50	0.40	ug/L	1
cis-1,3-Dichloropropene		10061-01-5	8260B	ND		0.50	0.40	ug/L	1
trans-1,3-Dichloropropene		10061-02-6	8260B	ND		0.50	0.40	ug/L	1
1,4-Dioxane		123-91-1	8260B	ND		20	13	ug/L	1
Ethylbenzene		100-41-4	8260B	ND		0.50	0.40	ug/L	1
2-Hexanone		591-78-6	8260B	ND		10	2.0	ug/L	1
Isopropylbenzene		98-82-8	8260B	ND		0.50	0.40	ug/L	1
Methyl acetate		79-20-9	8260B	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)		1634-04-4	8260B	0.80		0.50	0.40	ug/L	1
4-Methyl-2-pentanone		108-10-1	8260B	ND		10	2.0	ug/L	1
Methylcyclohexane		108-87-2	8260B	ND		5.0	0.40	ug/L	1
Methylene chloride		75-09-2	8260B	ND		0.50	0.40	ug/L	1
Styrene		100-42-5	8260B	ND		0.50	0.40	ug/L	1
1,1,2,2-Tetrachloroethane		79-34-5	8260B	ND		0.50	0.40	ug/L	1
Tetrachloroethene		127-18-4	8260B	24	J4	0.50	0.40	ug/L	1
Toluene		108-88-3	8260B	ND		0.50	0.40	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane		76-13-1	8260B	ND		0.50	0.40	ug/L	1
1,2,3-Trichlorobenzene		87-61-6	8260B	ND		0.50	0.40	ug/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Shealy Environmental Services, Inc.

106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

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12/14/16

J. Mar
11/22/16

Volatile Organic Compounds by GC/MS

Client: Tetra Tech EM Inc.	Laboratory ID: RJ20010-004
Description: PSS-GW-MW30	Matrix: Aqueous
Date Sampled: 10/18/2016 1115	
Date Received: 10/20/2016	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260B	1	10/21/2016 1257	TML		24888		
Parameter		CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2,4-Trichlorobenzene		120-82-1	8260B	ND		0.50	0.40	ug/L	1
1,1,1-Trichloroethane		71-55-6	8260B	ND		0.50	0.40	ug/L	1
1,1,2-Trichloroethane		79-00-5	8260B	ND		0.50	0.40	ug/L	1
Trichloroethene		79-01-6	8260B	9.6		0.50	0.40	ug/L	1
Trichlorofluoromethane		75-69-4	8260B	ND		0.50	0.40	ug/L	1
Vinyl chloride		75-01-4	8260B	ND		0.50	0.40	ug/L	1
m+p - Xylenes		179601-23-1	8260B	ND		0.50	0.40	ug/L	1
o - Xylenes		95-47-6	8260B	ND		0.50	0.40	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits						
1,2-Dichloroethane-d4		100	70-130						
Bromofluorobenzene		96	70-130						
Toluene-d8		104	70-130						

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 ND = Not detected at or above the MDL J = Estimated result < PQL and \geq MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

J. Maw
11/22/16

Volatile Organic Compounds by GC/MS

Client:Tetra Tech EM Inc.	Laboratory ID:RJ20010-008
Description: PSS-GW-MW295	Matrix: Aqueous
Date Sampled:10/18/2016 1425	
Date Received: 10/20/2016	

Run 1	Prep Method 5030B	Analytical Method 8260B	Dilution 1	Analysis Date 10/21/2016	Analyst TML	Prep Date	Batch 24888		
Parameter		CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone		67-64-1	8260B	ND		10	2.0	ug/L	1
Benzene		71-43-2	8260B	ND		0.50	0.40	ug/L	1
Bromochloromethane		74-97-5	8260B	ND		0.50	0.40	ug/L	1
Bromodichloromethane		75-27-4	8260B	ND		0.50	0.40	ug/L	1
Bromoform		75-25-2	8260B	ND		0.50	0.40	ug/L	1
Bromomethane (Methyl bromide)		74-83-9	8260B	ND		0.50	0.40	ug/L	1
2-Butanone (MEK)		78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide		75-15-0	8260B	ND		0.50	0.40	ug/L	1
Carbon tetrachloride		56-23-5	8260B	ND		0.50	0.40	ug/L	1
Chlorobenzene		108-90-7	8260B	ND		0.50	0.40	ug/L	1
Chloroethane		75-00-3	8260B	ND		0.50	0.40	ug/L	1
Chloroform		67-66-3	8260B	ND		0.50	0.40	ug/L	1
Chloromethane (Methyl chloride)		74-87-3	8260B	ND		0.50	0.40	ug/L	1
Cyclohexane		110-82-7	8260B	ND		0.50	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)		96-12-8	8260B	ND		0.50	0.40	ug/L	1
Dibromochloromethane		124-48-1	8260B	ND		0.50	0.40	ug/L	1
1,2-Dibromoethane (EDB)		106-93-4	8260B	ND		0.50	0.40	ug/L	1
1,2-Dichlorobenzene		95-50-1	8260B	ND		0.50	0.40	ug/L	1
1,3-Dichlorobenzene		541-73-1	8260B	ND		0.50	0.40	ug/L	1
1,4-Dichlorobenzene		106-46-7	8260B	ND		0.50	0.40	ug/L	1
Dichlorodifluoromethane		75-71-8	8260B	ND		0.50	0.40	ug/L	1
1,1-Dichloroethane		75-34-3	8260B	ND	1.6	0.50	0.40	ug/L	1
1,2-Dichloroethane		107-06-2	8260B	ND		0.50	0.40	ug/L	1
1,1-Dichloroethene		75-35-4	8260B	ND	4.4	0.50	0.40	ug/L	1
cis-1,2-Dichloroethene		156-59-2	8260B	ND	20	0.50	0.40	ug/L	1
trans-1,2-Dichloroethene		156-60-5	8260B	ND		0.50	0.40	ug/L	1
1,2-Dichloropropane		78-87-5	8260B	ND		0.50	0.40	ug/L	1
cis-1,3-Dichloropropene		10061-01-5	8260B	ND		0.50	0.40	ug/L	1
trans-1,3-Dichloropropene		10061-02-6	8260B	ND		0.50	0.40	ug/L	1
1,4-Dioxane		123-91-1	8260B	ND	31	20	13	ug/L	1
Ethylbenzene		100-41-4	8260B	ND		0.50	0.40	ug/L	1
2-Hexanone		591-78-6	8260B	ND		10	2.0	ug/L	1
Isopropylbenzene		98-82-8	8260B	ND		0.50	0.40	ug/L	1
Methyl acetate		79-20-9	8260B	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)		1634-04-4	8260B	ND		0.50	0.40	ug/L	1
4-Methyl-2-pentanone		108-10-1	8260B	ND		10	2.0	ug/L	1
Methylcyclohexane		108-87-2	8260B	ND		5.0	0.40	ug/L	1
Methylene chloride		75-09-2	8260B	ND		0.50	0.40	ug/L	1
Styrene		100-42-5	8260B	ND		0.50	0.40	ug/L	1
1,1,2,2-Tetrachloroethane		79-34-5	8260B	ND		0.50	0.40	ug/L	1
Tetrachloroethene		127-18-4	8260B	ND	55	0.50	0.40	ug/L	1
Toluene		108-88-3	8260B	ND		0.50	0.40	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane		76-13-1	8260B	ND		0.50	0.40	ug/L	1
1,2,3-Trichlorobenzene		87-61-6	8260B	ND		0.50	0.40	ug/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Y. Shealy
11/22/16

Volatile Organic Compounds by GC/MS

Client:Tetra Tech EM Inc.	Laboratory ID:RJ20010-008
Description: PSS-GW-MW295	Matrix: Aqueous
Date Sampled:10/18/2016 1425	
Date Received:10/20/2016	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260B	1	10/21/2016 1407	TML		24888		
Parameter	CAS Number	Analytical Method		Result	Q	PQL	MDL	Units	Run
1,2,4-Trichlorobenzene	120-82-1	8260B		ND		0.50	0.40	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B		ND		0.50	0.40	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B		ND		0.50	0.40	ug/L	1
Trichloroethylene	79-01-6	8260B		25		0.50	0.40	ug/L	1
Trichlorofluoromethane	75-69-4	8260B		0.66		0.50	0.40	ug/L	1
Vinyl chloride	75-01-4	8260B		ND		0.50	0.40	ug/L	1
m+p - Xylenes	179601-23-1	8260B		ND		0.50	0.40	ug/L	1
o - Xylenes	95-47-6	8260B		ND		0.50	0.40	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits						
1,2-Dichloroethane-d4		100	70-130						
Bromofluorobenzene		94	70-130						
Toluene-d8		104	70-130						

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 ND = Not detected at or above the MDL J = Estimated result < PQL and \geq MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Volatile Organic Compounds by GC/MS

Client: Tetra Tech EM Inc.	Laboratory ID: RJ20010-0111
Description: PSS-GW-MW3351	Matrix: Aqueous
Date Sampled: 10/18/2016 1705	
Date Received: 10/20/2016	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	
1	5030B	8260B	1	10/21/2016 1453	TML		24888	
Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		10	2.0	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.40	ug/L	1
Bromochloromethane	74-97-5	8260B	ND		0.50	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.40	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.40	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.40	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.40	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.40	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.40	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.40	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.40	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.40	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.40	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.40	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.40	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.40	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.40	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.40	ug/L	1
1,1-Dichloroethylene	75-35-4	8260B	ND		0.50	0.40	ug/L	1
cis-1,2-Dichloroethylene	156-59-2	8260B	ND		0.50	0.40	ug/L	1
trans-1,2-Dichloroethylene	156-60-5	8260B	ND		0.50	0.40	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.40	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.40	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.40	ug/L	1
1,4-Dioxane	123-91-1	8260B	ND		20	13	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.40	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	2.0	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.40	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.40	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	2.0	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.40	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.40	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.40	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.40	ug/L	1
Tetrachloroethylene	127-18-4	8260B	ND		0.50	0.40	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.40	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.40	ug/L	1
1,2,3-Trichlorobenzene	87-61-6	8260B	ND		0.50	0.40	ug/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

D. Johnson
11/22/16

Volatile Organic Compounds by GC/MS

Client: Tetra Tech EM Inc.	Laboratory ID: RJ20010-011
Description: PSS-GW-MW3351	Matrix: Aqueous
Date Sampled: 10/18/2016 1705	
Date Received: 10/20/2016	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260B	1	10/21/2016 1453	TML		24888		
Parameter		CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2,4-Trichlorobenzene		120-82-1	8260B	ND		0.50	0.40	ug/L	1
1,1,1-Trichloroethane		71-55-6	8260B	ND		0.50	0.40	ug/L	1
1,1,2-Trichloroethane		79-00-5	8260B	ND		0.50	0.40	ug/L	1
Trichloroethene		79-01-6	8260B	ND		0.50	0.40	ug/L	1
Trichlorofluoromethane		75-69-4	8260B	ND		0.50	0.40	ug/L	1
Vinyl chloride		75-01-4	8260B	ND		0.50	0.40	ug/L	1
m+p - Xylenes		179601-23-1	8260B	ND		0.50	0.40	ug/L	1
o - Xylenes		95-47-6	8260B	ND		0.50	0.40	ug/L	1
Surrogate		Run 1 Q	% Recovery	Acceptance Limits					
1,2-Dichloroethane-d4		101		70-130					
Bromofluorobenzene		97		70-130					
Toluene-d8		107		70-130					

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 ND = Not detected at or above the MDL J = Estimated result < PQL and \geq MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Volatile Organic Compounds by GC/MS

Client: Tetra Tech EM Inc.	Laboratory ID: RJ20010-012
Description: PSS-GW-MW3351-DUP	Matrix: Aqueous
Date Sampled: 10/18/2016 1710	
Date Received: 10/20/2016	

Run 1	Prep Method 5030B	Analytical Method 8260B	Dilution 1	Analysis Date 10/21/2016	Analyst TML	Prep Date	Batch 24888		
Parameter		CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone		67-64-1	8260B	ND		10	2.0	ug/L	1
Benzene		71-43-2	8260B	ND		0.50	0.40	ug/L	1
Bromochloromethane		74-97-5	8260B	ND		0.50	0.40	ug/L	1
Bromodichloromethane		75-27-4	8260B	ND		0.50	0.40	ug/L	1
Bromoform		75-25-2	8260B	ND		0.50	0.40	ug/L	1
Bromomethane (Methyl bromide)		74-83-9	8260B	ND		0.50	0.40	ug/L	1
2-Butanone (MEK)		78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide		75-15-0	8260B	ND		0.50	0.40	ug/L	1
Carbon tetrachloride		56-23-5	8260B	ND		0.50	0.40	ug/L	1
Chlorobenzene		108-90-7	8260B	ND		0.50	0.40	ug/L	1
Chloroethane		75-00-3	8260B	ND		0.50	0.40	ug/L	1
Chloroform		67-66-3	8260B	ND		0.50	0.40	ug/L	1
Chloromethane (Methyl chloride)		74-87-3	8260B	ND		0.50	0.40	ug/L	1
Cyclohexane		110-82-7	8260B	ND		0.50	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)		96-12-8	8260B	ND		0.50	0.40	ug/L	1
Dibromochloromethane		124-48-1	8260B	ND		0.50	0.40	ug/L	1
1,2-Dibromoethane (EDB)		106-93-4	8260B	ND		0.50	0.40	ug/L	1
1,2-Dichlorobenzene		95-50-1	8260B	ND		0.50	0.40	ug/L	1
1,3-Dichlorobenzene		541-73-1	8260B	ND		0.50	0.40	ug/L	1
1,4-Dichlorobenzene		106-46-7	8260B	ND		0.50	0.40	ug/L	1
Dichlorodifluoromethane		75-71-8	8260B	ND		0.50	0.40	ug/L	1
1,1-Dichloroethane		75-34-3	8260B	ND		0.50	0.40	ug/L	1
1,2-Dichloroethane		107-06-2	8260B	ND		0.50	0.40	ug/L	1
1,1-Dichloroethene		75-35-4	8260B	ND		0.50	0.40	ug/L	1
cis-1,2-Dichloroethene		156-59-2	8260B	ND		0.50	0.40	ug/L	1
trans-1,2-Dichloroethene		156-60-5	8260B	ND		0.50	0.40	ug/L	1
1,2-Dichloropropane		78-87-5	8260B	ND		0.50	0.40	ug/L	1
cis-1,3-Dichloropropene		10061-01-5	8260B	ND		0.50	0.40	ug/L	1
trans-1,3-Dichloropropene		10061-02-6	8260B	ND		0.50	0.40	ug/L	1
1,4-Dioxane		123-91-1	8260B	ND		20	13	ug/L	1
Ethylbenzene		100-41-4	8260B	ND		0.50	0.40	ug/L	1
2-Hexanone		591-78-6	8260B	ND		10	2.0	ug/L	1
Isopropylbenzene		98-82-8	8260B	ND		0.50	0.40	ug/L	1
Methyl acetate		79-20-9	8260B	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)		1634-04-4	8260B	ND		0.50	0.40	ug/L	1
4-Methyl-2-pentanone		108-10-1	8260B	ND		10	2.0	ug/L	1
Methylcyclohexane		108-87-2	8260B	ND		5.0	0.40	ug/L	1
Methylene chloride		75-09-2	8260B	ND		0.50	0.40	ug/L	1
Styrene		100-42-5	8260B	ND		0.50	0.40	ug/L	1
1,1,2,2-Tetrachloroethane		79-34-5	8260B	ND		0.50	0.40	ug/L	1
Tetrachloroethene		127-18-4	8260B	ND		0.50	0.40	ug/L	1
Toluene		108-88-3	8260B	ND		0.50	0.40	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane		76-13-1	8260B	ND		0.50	0.40	ug/L	1
1,2,3-Trichlorobenzene		87-61-6	8260B	ND		0.50	0.40	ug/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Volatile Organic Compounds by GC/MS

Client:Tetra Tech EM Inc.	Laboratory ID:RJ20010-012
Description: PSS-GW-MW3351-DUP	Matrix: Aqueous
Date Sampled:10/18/2016 1710	
Date Received: 10/20/2016	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	10/21/2016 1516	TML		24888
Parameter	CAS Number	Analytical Method	Result	PQL	MDL	Units	Run
1,2,4-Trichlorobenzene	120-82-1	8260B	ND	0.50	0.40	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND	0.50	0.40	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND	0.50	0.40	ug/L	1
Trichloroethylene	79-01-6	8260B	ND	0.50	0.40	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND	0.50	0.40	ug/L	1
Vinyl chloride	75-01-4	8260B	ND	0.50	0.40	ug/L	1
m+p - Xylenes	179601-23-1	8260B	ND	0.50	0.40	ug/L	1
o - Xylenes	95-47-6	8260B	ND	0.50	0.40	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits				
1,2-Dichloroethane-d4	98	70-130					
Bromofluorobenzene	95	70-130					
Toluene-d8	105	70-130					

PQL = Practical quantitation limit

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ND = Not detected at or above the MDL

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Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

J. Shealy
11/22/16

Volatile Organic Compounds by GC/MS

Client:Tetra Tech EM Inc.	Laboratory ID:RJ20010-006
Description: PSS-SW-01	Matrix: Aqueous
Date Sampled:10/18/2016 1330	
Date Received: 10/20/2016	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260B	5	10/21/2016	1710	TML	24888		
Parameter	CAS Number	Analytical Method		Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B		ND		50	10	ug/L	1
Benzene	71-43-2	8260B		ND		2.5	2.0	ug/L	1
Bromochloromethane	74-97-5	8260B		ND		2.5	2.0	ug/L	1
Bromodichloromethane	75-27-4	8260B		ND		2.5	2.0	ug/L	1
Bromoform	75-25-2	8260B		ND		2.5	2.0	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B		ND		2.5	2.0	ug/L	1
2-Butanone (MEK)	78-93-3	8260B		ND		50	10	ug/L	1
Carbon disulfide	75-15-0	8260B		ND		2.5	2.0	ug/L	1
Carbon tetrachloride	56-23-5	8260B		ND		2.5	2.0	ug/L	1
Chlorobenzene	108-90-7	8260B		ND		2.5	2.0	ug/L	1
Chloroethane	75-00-3	8260B		ND		2.5	2.0	ug/L	1
Chloroform	67-66-3	8260B		2.8		2.5	2.0	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B		ND		2.5	2.0	ug/L	1
Cyclohexane	110-82-7	8260B		ND		2.5	2.0	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B		ND		2.5	2.0	ug/L	1
Dibromochloromethane	124-48-1	8260B		ND		2.5	2.0	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B		ND		2.5	2.0	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B		ND		2.5	2.0	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B		ND		2.5	2.0	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B		ND		2.5	2.0	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B		ND		2.5	2.0	ug/L	1
1,1-Dichloroethane	75-34-3	8260B		2.9		2.5	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B		ND		2.5	2.0	ug/L	1
1,1-Dichloroethylene	75-35-4	8260B		100		2.5	2.0	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B		280		2.5	2.0	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B		ND		2.5	2.0	ug/L	1
1,2-Dichloropropane	78-87-5	8260B		ND		2.5	2.0	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B		ND		2.5	2.0	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B		ND		2.5	2.0	ug/L	1
1,4-Dioxane	123-91-1	8260B		ND		100	67	ug/L	1
Ethylbenzene	100-41-4	8260B		ND		2.5	2.0	ug/L	1
2-Hexanone	591-78-6	8260B		ND		50	10	ug/L	1
Isopropylbenzene	98-82-8	8260B		ND		2.5	2.0	ug/L	1
Methyl acetate	79-20-9	8260B		ND		5.0	2.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B		ND		2.5	2.0	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B		ND		50	10	ug/L	1
Methylcyclohexane	108-87-2	8260B		ND		25	2.0	ug/L	1
Methylene chloride	75-09-2	8260B		ND		2.5	2.0	ug/L	1
Styrene	100-42-5	8260B		ND		2.5	2.0	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B		ND		2.5	2.0	ug/L	1
Tetrachloroethylene	127-18-4	8260B		410		2.5	2.0	ug/L	1
Toluene	108-88-3	8260B		ND		2.5	2.0	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B		ND		2.5	2.0	ug/L	1
1,2,3-Trichlorobenzene	87-61-6	8260B		ND		2.5	2.0	ug/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

J. Moore
11/2/16

Volatile Organic Compounds by GC/MS

Client: Tetra Tech EM Inc.	Laboratory ID: RJ20010-006
Description: PSS-SW-01	Matrix: Aqueous
Date Sampled: 10/18/2016 1330	
Date Received: 10/20/2016	

Run 1	Prep Method 5030B	Analytical Method 8260B	Dilution 5	Analysis Date 10/21/2016	Analyst TML	Prep Date	Batch 24888		
Parameter		CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2,4-Trichlorobenzene		120-82-1	8260B	ND		2.5	2.0	ug/L	1
1,1,1-Trichloroethane		71-55-6	8260B	2.7		2.5	2.0	ug/L	1
1,1,2-Trichloroethane		79-00-5	8260B	ND		2.5	2.0	ug/L	1
Trichloroethene		79-01-6	8260B	5.0		2.5	2.0	ug/L	1
Trichlorofluoromethane		75-69-4	8260B	ND		2.5	2.0	ug/L	1
Vinyl chloride		75-01-4	8260B	5.7		2.5	2.0	ug/L	1
m+p - Xylenes		179601-23-1	8260B	ND		2.5	2.0	ug/L	1
o - Xylenes		95-47-6	8260B	ND		2.5	2.0	ug/L	1
Surrogate		Q	Run 1 % Recovery	Acceptance Limits					
1,2-Dichloroethane-d4		100		70-130					
Bromofluorobenzene		99		70-130					
Toluene-d8		106		70-130					

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

*J. Ma
11/2/16*

Volatile Organic Compounds by GC/MS

Client: Tetra Tech EM Inc.	Laboratory ID: RJ20010-009
Description: PSS-SW-02	Matrix: Aqueous
Date Sampled: 10/18/2016 1530	
Date Received: 10/20/2016	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260B	1	10/21/2016 1430	TML		24888		
Parameter	CAS Number	Analytical Method		Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B		ND		10	2.0	ug/L	1
Benzene	71-43-2	8260B		ND		0.50	0.40	ug/L	1
Bromochloromethane	74-97-5	8260B		ND		0.50	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260B		ND		0.50	0.40	ug/L	1
Bromoform	75-25-2	8260B		ND		0.50	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B		ND		0.50	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260B		ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B		ND		0.50	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260B		ND		0.50	0.40	ug/L	1
Chlorobenzene	108-90-7	8260B		ND		0.50	0.40	ug/L	1
Chloroethane	75-00-3	8260B		ND		0.50	0.40	ug/L	1
Chloroform	67-66-3	8260B		ND		0.50	0.40	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B		ND		0.50	0.40	ug/L	1
Cyclohexane	110-82-7	8260B		ND		0.50	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B		ND		0.50	0.40	ug/L	1
Dibromochloromethane	124-48-1	8260B		ND		0.50	0.40	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B		ND		0.50	0.40	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B		ND		0.50	0.40	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B		ND		0.50	0.40	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B		ND		0.50	0.40	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B		ND		0.50	0.40	ug/L	1
1,1-Dichloroethane	75-34-3	8260B		0.86		0.50	0.40	ug/L	1
1,2-Dichloroethane	107-06-2	8260B		ND		0.50	0.40	ug/L	1
1,1-Dichloroethene	75-35-4	8260B		13		0.50	0.40	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B		10		0.50	0.40	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B		ND		0.50	0.40	ug/L	1
1,2-Dichloropropane	78-87-5	8260B		ND		0.50	0.40	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B		ND		0.50	0.40	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B		ND		0.50	0.40	ug/L	1
1,4-Dioxane	123-91-1	8260B		33		20	13	ug/L	1
Ethylbenzene	100-41-4	8260B		ND		0.50	0.40	ug/L	1
2-Hexanone	591-78-6	8260B		ND		10	2.0	ug/L	1
Isopropylbenzene	98-82-8	8260B		ND		0.50	0.40	ug/L	1
Methyl acetate	79-20-9	8260B		ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B		ND		0.50	0.40	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B		ND		10	2.0	ug/L	1
Methylcyclohexane	108-87-2	8260B		ND		5.0	0.40	ug/L	1
Methylene chloride	75-09-2	8260B		ND		0.50	0.40	ug/L	1
Styrene	100-42-5	8260B		ND		0.50	0.40	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B		ND		0.50	0.40	ug/L	1
Tetrachloroethene	127-18-4	8260B		16		0.50	0.40	ug/L	1
Toluene	108-88-3	8260B		ND		0.50	0.40	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B		ND		0.50	0.40	ug/L	1
1,2,3-Trichlorobenzene	87-61-6	8260B		ND		0.50	0.40	ug/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

J. Shealy
11/24/16

Volatile Organic Compounds by GC/MS

Client: Tetra Tech EM Inc.	Laboratory ID: RJ20010-009
Description: PSS-SW-02	Matrix: Aqueous
Date Sampled: 10/18/2016 1530	
Date Received: 10/20/2016	

Run 1	Prep Method 5030B	Analytical Method 8260B	Dilution 1	Analysis Date 10/21/2016 1430	Analyst TML	Prep Date	Batch 24888		
Parameter		CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2,4-Trichlorobenzene		120-82-1	8260B	ND		0.50	0.40	ug/L	1
1,1,1-Trichloroethane		71-55-6	8260B	J	1	0.50	0.40	ug/L	1
1,1,2-Trichloroethane		79-00-5	8260B	ND		0.50	0.40	ug/L	1
Trichloroethene		79-01-6	8260B	J	1	0.50	0.40	ug/L	1
Trichlorofluoromethane		75-69-4	8260B	ND		0.50	0.40	ug/L	1
Vinyl chloride		75-01-4	8260B	0.60		0.50	0.40	ug/L	1
m+p - Xylenes		179601-23-1	8260B	ND		0.50	0.40	ug/L	1
o - Xylenes		95-47-6	8260B	ND		0.50	0.40	ug/L	1
Surrogate		Q	Run 1 % Recovery	Acceptance Limits					
1,2-Dichloroethane-d4		98	70-130						
Bromofluorobenzene		95	70-130						
Toluene-d8		103	70-130						

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 ND = Not detected at or above the MDL J = Estimated result < PQL and \geq MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Jim Shealy
11/22/16

Volatile Organic Compounds by GC/MS

Client:Tetra Tech EM Inc.	Laboratory ID:RJ20010-007
Description: PSS-SW-03	Matrix: Aqueous
Date Sampled:10/18/2016 1400	
Date Received: 10/20/2016	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	10/21/2016 1344	TML		24888
Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units
Acetone	67-64-1	8260B	4.8	J	10	2.0	ug/L
Benzene	71-43-2	8260B	ND		0.50	0.40	ug/L
Bromochloromethane	74-97-5	8260B	ND		0.50	0.40	ug/L
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.40	ug/L
Bromoform	75-25-2	8260B	ND		0.50	0.40	ug/L
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.40	ug/L
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L
Carbon disulfide	75-15-0	8260B	ND		0.50	0.40	ug/L
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.40	ug/L
Chlorobenzene	108-90-7	8260B	ND		0.50	0.40	ug/L
Chloroethane	75-00-3	8260B	ND		0.50	0.40	ug/L
Chloroform	67-66-3	8260B	0.46	J	0.50	0.40	ug/L
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.40	ug/L
Cyclohexane	110-82-7	8260B	ND		0.50	0.40	ug/L
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.40	ug/L
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.40	ug/L
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.40	ug/L
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.40	ug/L
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.40	ug/L
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.40	ug/L
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.40	ug/L
1,1-Dichloroethane	75-34-3	8260B	1.6		0.50	0.40	ug/L
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.40	ug/L
1,1-Dichloroethylene	75-35-4	8260B	32		0.50	0.40	ug/L
cis-1,2-Dichloroethylene	156-59-2	8260B	11		0.50	0.40	ug/L
trans-1,2-Dichloroethylene	156-60-5	8260B	ND		0.50	0.40	ug/L
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.40	ug/L
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.40	ug/L
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.40	ug/L
1,4-Dioxane	123-91-1	8260B	30		20	13	ug/L
Ethylbenzene	100-41-4	8260B	ND		0.50	0.40	ug/L
2-Hexanone	591-78-6	8260B	ND		10	2.0	ug/L
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.40	ug/L
Methyl acetate	79-20-9	8260B	ND		1.0	0.40	ug/L
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.40	ug/L
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	2.0	ug/L
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.40	ug/L
Methylene chloride	75-09-2	8260B	ND		0.50	0.40	ug/L
Styrene	100-42-5	8260B	ND		0.50	0.40	ug/L
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.40	ug/L
Tetrachloroethene	127-18-4	8260B	53		0.50	0.40	ug/L
Toluene	108-88-3	8260B	0.60		0.50	0.40	ug/L
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.40	ug/L
1,2,3-Trichlorobenzene	87-61-6	8260B	ND		0.50	0.40	ug/L

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

J. Mar 11/22/14

Volatile Organic Compounds by GC/MS

Client: Tetra Tech EM Inc.	Laboratory ID: RJ20010-007
Description: PSS-SW-03	Matrix: Aqueous
Date Sampled: 10/18/2016 1400	
Date Received: 10/20/2016	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	
1	5030B	8260B	1	10/21/2016 1344	TML		24888	
Parameter	CAS Number	Analytical Method		Result Q	PQL	MDL	Units	Run
1,2,4-Trichlorobenzene	120-82-1	8260B		ND	0.50	0.40	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B		8.8	0.50	0.40	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B		ND	0.50	0.40	ug/L	1
Trichloroethene	79-01-6	8260B		30	0.50	0.40	ug/L	1
Trichlorofluoromethane	75-69-4	8260B		ND	0.50	0.40	ug/L	1
Vinyl chloride	75-01-4	8260B		1.0	0.50	0.40	ug/L	1
m+p - Xylenes	179601-23-1	8260B		ND	0.50	0.40	ug/L	1
o - Xylenes	95-47-6	8260B		ND	0.50	0.40	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits					
1,2-Dichloroethane-d4		106	70-130					
Bromofluorobenzene		99	70-130					
Toluene-d8		104	70-130					

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

J. Shealy
10/21/16

Volatile Organic Compounds by GC/MS

Client:Tetra Tech EM Inc.	Laboratory ID:RJ20010-005
Description: PSS-SW-04	Matrix: Aqueous
Date Sampled:10/18/2016 1130	
Date Received: 10/20/2016	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260B	1	10/21/2016 1320	TML		24888		
Parameter	CAS Number	Analytical Method		Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B		2.3	J	10	2.0	ug/L	1
Benzene	71-43-2	8260B		ND		0.50	0.40	ug/L	1
Bromochloromethane	74-97-5	8260B		ND		0.50	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260B		ND		0.50	0.40	ug/L	1
Bromoform	75-25-2	8260B		ND		0.50	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B		ND		0.50	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260B		ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B		ND		0.50	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260B		ND		0.50	0.40	ug/L	1
Chlorobenzene	108-90-7	8260B		ND		0.50	0.40	ug/L	1
Chloroethane	75-00-3	8260B		ND		0.50	0.40	ug/L	1
Chloroform	67-66-3	8260B		ND		0.50	0.40	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B		ND		0.50	0.40	ug/L	1
Cyclohexane	110-82-7	8260B		ND		0.50	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B		ND		0.50	0.40	ug/L	1
Dibromochloromethane	124-48-1	8260B		ND		0.50	0.40	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B		ND		0.50	0.40	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B		ND		0.50	0.40	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B		ND		0.50	0.40	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B		ND		0.50	0.40	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B		ND		0.50	0.40	ug/L	1
1,1-Dichloroethane	75-34-3	8260B		ND		0.50	0.40	ug/L	1
1,2-Dichloroethane	107-06-2	8260B		ND		0.50	0.40	ug/L	1
1,1-Dichloroethene	75-35-4	8260B		2.2		0.50	0.40	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B		2.1		0.50	0.40	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B		ND		0.50	0.40	ug/L	1
1,2-Dichloropropane	78-87-5	8260B		ND		0.50	0.40	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B		ND		0.50	0.40	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B		ND		0.50	0.40	ug/L	1
1,4-Dioxane	123-91-1	8260B		69		20	13	ug/L	1
Ethylbenzene	100-41-4	8260B		ND		0.50	0.40	ug/L	1
2-Hexanone	591-78-6	8260B		ND		10	2.0	ug/L	1
Isopropylbenzene	98-82-8	8260B		ND		0.50	0.40	ug/L	1
Methyl acetate	79-20-9	8260B		ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B		ND		0.50	0.40	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B		ND		10	2.0	ug/L	1
Methylcyclohexane	108-87-2	8260B		ND		5.0	0.40	ug/L	1
Methylene chloride	75-09-2	8260B		ND		0.50	0.40	ug/L	1
Styrene	100-42-5	8260B		ND		0.50	0.40	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B		ND		0.50	0.40	ug/L	1
Tetrachloroethene	127-18-4	8260B		4.5	**	0.50	0.40	ug/L	1
Toluene	108-88-3	8260B		ND		0.50	0.40	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B		ND		0.50	0.40	ug/L	1
1,2,3-Trichlorobenzene	87-61-6	8260B		ND		0.50	0.40	ug/L	1

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 ND = Not detected at or above the MDL J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Shealy Environmental Services, Inc.
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

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y. Mar
11/21/16

Volatile Organic Compounds by GC/MS

Client:Tetra Tech EM Inc.

Laboratory ID:RJ20010-005

Description: PSS-SW-04

Matrix: Aqueous

Date Sampled:10/18/2016 1130

Date Received:10/20/2016

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	10/21/2016 1320	TML		24888

Parameter	CAS Number	Analytical Method	Result	PQL	MDL	Units	Run
1,2,4-Trichlorobenzene	120-82-1	8260B	ND	0.50	0.40	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND	0.50	0.40	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND	0.50	0.40	ug/L	1
Trichloroethylene	79-01-6	8260B	2.3	0.50	0.40	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND	0.50	0.40	ug/L	1
Vinyl chloride	75-01-4	8260B	ND	0.50	0.40	ug/L	1
m+p - Xylenes	179601-23-1	8260B	ND	0.50	0.40	ug/L	1
o - Xylenes	95-47-6	8260B	ND	0.50	0.40	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits				
1,2-Dichloroethane-d4	100	70-130					
Bromofluorobenzene	97	70-130					
Toluene-d8	105	70-130					

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

L. Shealy
11/22/16

Volatile Organic Compounds by GC/MS

Client: Tetra Tech EM Inc.	Laboratory ID: RJ20010-001
Description: PSS-SW-05	Matrix: Aqueous
Date Sampled: 10/18/2016 1045	
Date Received: 10/20/2016	

Run 1	Prep Method 5030B	Analytical Method 8260B	Dilution 1	Analysis Date 10/21/2016	Analyst TML	Prep Date	Batch 24888		
Parameter		CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone		67-64-1	8260B	2.8	J	10	2.0	ug/L	1
Benzene		71-43-2	8260B	ND		0.50	0.40	ug/L	1
Bromochloromethane		74-97-5	8260B	ND		0.50	0.40	ug/L	1
Bromodichloromethane		75-27-4	8260B	ND		0.50	0.40	ug/L	1
Bromoform		75-25-2	8260B	ND		0.50	0.40	ug/L	1
Bromomethane (Methyl bromide)		74-83-9	8260B	ND		0.50	0.40	ug/L	1
2-Butanone (MEK)		78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide		75-15-0	8260B	ND		0.50	0.40	ug/L	1
Carbon tetrachloride		56-23-5	8260B	ND		0.50	0.40	ug/L	1
Chlorobenzene		108-90-7	8260B	ND		0.50	0.40	ug/L	1
Chloroethane		75-00-3	8260B	ND		0.50	0.40	ug/L	1
Chloroform		67-66-3	8260B	ND		0.50	0.40	ug/L	1
Chloromethane (Methyl chloride)		74-87-3	8260B	ND		0.50	0.40	ug/L	1
Cyclohexane		110-82-7	8260B	ND		0.50	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)		96-12-8	8260B	ND		0.50	0.40	ug/L	1
Dibromochloromethane		124-48-1	8260B	ND		0.50	0.40	ug/L	1
1,2-Dibromoethane (EDB)		106-93-4	8260B	ND		0.50	0.40	ug/L	1
1,2-Dichlorobenzene		95-50-1	8260B	ND		0.50	0.40	ug/L	1
1,3-Dichlorobenzene		541-73-1	8260B	ND		0.50	0.40	ug/L	1
1,4-Dichlorobenzene		106-46-7	8260B	ND		0.50	0.40	ug/L	1
Dichlorodifluoromethane		75-71-8	8260B	ND		0.50	0.40	ug/L	1
1,1-Dichloroethane		75-34-3	8260B	1.2		0.50	0.40	ug/L	1
1,2-Dichloroethane		107-06-2	8260B	ND		0.50	0.40	ug/L	1
1,1-Dichloroethene		75-35-4	8260B	8.7		0.50	0.40	ug/L	1
cis-1,2-Dichloroethene		156-59-2	8260B	11		0.50	0.40	ug/L	1
trans-1,2-Dichloroethene		156-60-5	8260B	ND		0.50	0.40	ug/L	1
1,2-Dichloropropane		78-87-5	8260B	ND		0.50	0.40	ug/L	1
cis-1,3-Dichloropropene		10061-01-5	8260B	ND		0.50	0.40	ug/L	1
trans-1,3-Dichloropropene		10061-02-6	8260B	ND		0.50	0.40	ug/L	1
1,4-Dioxane		123-91-1	8260B	63		20	13	ug/L	1
Ethylbenzene		100-41-4	8260B	ND		0.50	0.40	ug/L	1
2-Hexanone		591-78-6	8260B	ND		10	2.0	ug/L	1
Isopropylbenzene		98-82-8	8260B	ND		0.50	0.40	ug/L	1
Methyl acetate		79-20-9	8260B	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)		1634-04-4	8260B	ND		0.50	0.40	ug/L	1
4-Methyl-2-pentanone		108-10-1	8260B	ND		10	2.0	ug/L	1
Methylcyclohexane		108-87-2	8260B	ND		5.0	0.40	ug/L	1
Methylene chloride		75-09-2	8260B	ND		0.50	0.40	ug/L	1
Styrene		100-42-5	8260B	ND		0.50	0.40	ug/L	1
1,1,2,2-Tetrachloroethane		79-34-5	8260B	ND		0.50	0.40	ug/L	1
Tetrachloroethene		127-18-4	8260B	86		0.50	0.40	ug/L	1
Toluene		108-88-3	8260B	ND		0.50	0.40	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane		76-13-1	8260B	ND		0.50	0.40	ug/L	1
1,2,3-Trichlorobenzene		87-61-6	8260B	ND		0.50	0.40	ug/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

J. Shealy
11/24/16

Volatile Organic Compounds by GC/MS

Client: Tetra Tech EM Inc.	Laboratory ID: RJ20010-001
Description: PSS-SW-05	Matrix: Aqueous
Date Sampled: 10/18/2016 1045	
Date Received: 10/20/2016	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260B	1	10/21/2016 1149	TML		24888		
Parameter		CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2,4-Trichlorobenzene		120-82-1	8260B	ND		0.50 u	0.40	ug/L	1
1,1,1-Trichloroethane		71-55-6	8260B	ND		0.50	0.40	ug/L	1
1,1,2-Trichloroethane		79-00-5	8260B	ND		0.50	0.40	ug/L	1
Trichloroethene		79-01-6	8260B	32		0.50	0.40	ug/L	1
Trichlorofluoromethane		75-69-4	8260B	ND		0.50 u	0.40	ug/L	1
Vinyl chloride		75-01-4	8260B	1.2		0.50	0.40	ug/L	1
m+p - Xylenes		179601-23-1	8260B	ND		0.50 u	0.40	ug/L	1
o - Xylenes		95-47-6	8260B	ND		0.50 u	0.40	ug/L	1
Surrogate		Q	Run 1 % Recovery	Acceptance Limits					
1,2-Dichloroethane-d4			105	70-130					
Bromofluorobenzene			97	70-130					
Toluene-d8			103	70-130					

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 ND = Not detected at or above the MDL J = Estimated result < PQL and \geq MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Volatile Organic Compounds by GC/MS

Client: Tetra Tech EM Inc.	Laboratory ID: RJ20010-002
Description: PSS-SW-06	Matrix: Aqueous
Date Sampled: 10/18/2016 1110	
Date Received: 10/20/2016	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260B	1	10/21/2016	1211	TML	24888		
Parameter	CAS Number	Analytical Method		Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B		2.2	J	10	2.0	ug/L	1
Benzene	71-43-2	8260B		0.50		0.50	0.40	ug/L	1
Bromochloromethane	74-97-5	8260B		ND		0.50	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260B		ND		0.50	0.40	ug/L	1
Bromoform	75-25-2	8260B		ND		0.50	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B		ND		0.50	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260B		ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B		ND		0.50	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260B		ND		0.50	0.40	ug/L	1
Chlorobenzene	108-90-7	8260B		ND		0.50	0.40	ug/L	1
Chloroethane	75-00-3	8260B		ND		0.50	0.40	ug/L	1
Chloroform	67-66-3	8260B		ND		0.50	0.40	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B		ND		0.50	0.40	ug/L	1
Cyclohexane	110-82-7	8260B		ND		0.50	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B		ND		0.50	0.40	ug/L	1
Dibromochloromethane	124-48-1	8260B		ND		0.50	0.40	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B		ND		0.50	0.40	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B		0.78		0.50	0.40	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B		ND		0.50	0.40	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B		ND		0.50	0.40	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B		ND		0.50	0.40	ug/L	1
1,1-Dichloroethane	75-34-3	8260B		1.5		0.50	0.40	ug/L	1
1,2-Dichloroethane	107-06-2	8260B		ND		0.50	0.40	ug/L	1
1,1-Dichloroethene	75-35-4	8260B		22		0.50	0.40	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B		11		0.50	0.40	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B		ND		0.50	0.40	ug/L	1
1,2-Dichloropropane	78-87-5	8260B		ND		0.50	0.40	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B		ND		0.50	0.40	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B		ND		0.50	0.40	ug/L	1
1,4-Dioxane	123-91-1	8260B		47		20	13	ug/L	1
Ethylbenzene	100-41-4	8260B		ND		0.50	0.40	ug/L	1
2-Hexanone	591-78-6	8260B		ND		10	2.0	ug/L	1
Isopropylbenzene	98-82-8	8260B		ND		0.50	0.40	ug/L	1
Methyl acetate	79-20-9	8260B		ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B		ND		0.50	0.40	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B		ND		10	2.0	ug/L	1
Methylcyclohexane	108-87-2	8260B		ND		5.0	0.40	ug/L	1
Methylene chloride	75-09-2	8260B		ND		0.50	0.40	ug/L	1
Styrene	100-42-5	8260B		ND		0.50	0.40	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B		ND		0.50	0.40	ug/L	1
Tetrachloroethene	127-18-4	8260B		41		0.50	0.40	ug/L	1
Toluene	108-88-3	8260B		ND		0.50	0.40	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B		ND		0.50	0.40	ug/L	1
1,2,3-Trichlorobenzene	87-61-6	8260B		ND		0.50	0.40	ug/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

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ND = Not detected at or above the MDL

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Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Jim Marlowe
11/22/16

Volatile Organic Compounds by GC/MS

Client: Tetra Tech EM Inc.	Laboratory ID: RJ20010-002
Description: PSS-SW-06	Matrix: Aqueous
Date Sampled: 10/18/2016 1110	
Date Received: 10/20/2016	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	10/21/2016	1211 TML		24888
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Parameter	CAS Number	Analytical Method	Result Q	PQL	MDL	Units	Run
1,2,4-Trichlorobenzene	120-82-1	8260B	ND	0.50 U	0.40	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	4.5	0.50	0.40	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND	0.50 U	0.40	ug/L	1
Trichloroethene	79-01-6	8260B	21	0.50	0.40	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND	0.50 U	0.40	ug/L	1
Vinyl chloride	75-01-4	8260B	1.3	0.50	0.40	ug/L	1
m+p - Xylenes	179601-23-1	8260B	ND	0.50 U	0.40	ug/L	1
o - Xylenes	95-47-6	8260B	ND	0.50 U	0.40	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits				
1,2-Dichloroethane-d4		100	70-130				
Bromofluorobenzene		97	70-130				
Toluene-d8		105	70-130				

PQL = Practical quantitation limit

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ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

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Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Volatile Organic Compounds by GC/MS

Client:Tetra Tech EM Inc.	Laboratory ID:RJ20010-003
Description: PSS-SW-06-DUP	Matrix: Aqueous
Date Sampled:10/18/2016 1115	
Date Received:10/20/2016	

Run 1	Prep Method 5030B	Analytical Method 8260B	Dilution 1	Analysis Date 10/21/2016	Analyst 1234 TML	Prep Date	Batch 24888	
Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units ug/L	Run
Acetone	67-64-1	8260B	2.2	J	10	2.0	ug/L	1
Benzene	71-43-2	8260B	0.49	J	0.50	0.40	ug/L	1
Bromochloromethane	74-97-5	8260B	ND		0.50	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.40	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.40	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.40	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.40	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.40	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.40	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.40	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.40	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.40	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	0.69		0.50	0.40	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.40	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.40	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.40	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	1.0		0.50	0.40	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.40	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	22		0.50	0.40	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	11		0.50	0.40	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.40	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.40	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.40	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.40	ug/L	1
1,4-Dioxane	123-91-1	8260B	53		20	13	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.40	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	2.0	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.40	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.40	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	2.0	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.40	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.40	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.40	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.40	ug/L	1
Tetrachloroethene	127-18-4	8260B	42		0.50	0.40	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.40	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.40	ug/L	1
1,2,3-Trichlorobenzene	87-61-6	8260B	ND		0.50	0.40	ug/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Jim Marlowe
11/21/16

Volatile Organic Compounds by GC/MS

Client:Tetra Tech EM Inc.	Laboratory ID:RJ20010-003
Description: PSS-SW-06-DUP	Matrix: Aqueous
Date Sampled:10/18/2016 1115	
Date Received:10/20/2016	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	10/21/2016	1234	TML	24888
Parameter	CAS Number	Analytical Method	Result Q	PQL	MDL	Units	Run
1,2,4-Trichlorobenzene	120-82-1	8260B	ND	0.50	0.40	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	4.4	0.50	0.40	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND	0.50	0.40	ug/L	1
Trichloroethene	79-01-6	8260B	21	0.50	0.40	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND	0.50	0.40	ug/L	1
Vinyl chloride	75-01-4	8260B	1.2	0.50	0.40	ug/L	1
m+p - Xylenes	179601-23-1	8260B	ND	0.50	0.40	ug/L	1
o - Xylenes	95-47-6	8260B	ND	0.50	0.40	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits				
1,2-Dichloroethane-d4		98	70-130				
Bromofluorobenzene		92	70-130				
Toluene-d8		102	70-130				

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

J. Ma
11/22/16

Volatile Organic Compounds by GC/MS

Client:Tetra Tech EM Inc.	Laboratory ID:RJ20010-013
Description: PSS-FB	Matrix: Aqueous
Date Sampled:10/18/2016 1715	
Date Received:10/20/2016	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260B	1	10/21/2016 1126	TML		24888		
Parameter	CAS Number	Analytical Method		Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B		ND		10	2.0	ug/L	1
Benzene	71-43-2	8260B		ND		0.50	0.40	ug/L	1
Bromochloromethane	74-97-5	8260B		ND		0.50	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260B		ND		0.50	0.40	ug/L	1
Bromoform	75-25-2	8260B		ND		0.50	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B		ND		0.50	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260B		ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B		ND		0.50	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260B		ND		0.50	0.40	ug/L	1
Chlorobenzene	108-90-7	8260B		ND		0.50	0.40	ug/L	1
Chloroethane	75-00-3	8260B		ND		0.50	0.40	ug/L	1
Chloroform	67-66-3	8260B		ND		0.50	0.40	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B		ND		0.50	0.40	ug/L	1
Cyclohexane	110-82-7	8260B		ND		0.50	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B		ND		0.50	0.40	ug/L	1
Dibromochloromethane	124-48-1	8260B		ND		0.50	0.40	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B		ND		0.50	0.40	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B		ND		0.50	0.40	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B		ND		0.50	0.40	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B		ND		0.50	0.40	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B		ND		0.50	0.40	ug/L	1
1,1-Dichloroethane	75-34-3	8260B		ND		0.50	0.40	ug/L	1
1,2-Dichloroethane	107-06-2	8260B		ND		0.50	0.40	ug/L	1
1,1-Dichloroethene	75-35-4	8260B		ND		0.50	0.40	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B		ND		0.50	0.40	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B		ND		0.50	0.40	ug/L	1
1,2-Dichloropropane	78-87-5	8260B		ND		0.50	0.40	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B		ND		0.50	0.40	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B		ND		0.50	0.40	ug/L	1
1,4-Dioxane	123-91-1	8260B		ND		20	13	ug/L	1
Ethylbenzene	100-41-4	8260B		ND		0.50	0.40	ug/L	1
2-Hexanone	591-78-6	8260B		ND		10	2.0	ug/L	1
Isopropylbenzene	98-82-8	8260B		ND		0.50	0.40	ug/L	1
Methyl acetate	79-20-9	8260B		ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B		ND		0.50	0.40	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B		ND		10	2.0	ug/L	1
Methylcyclohexane	108-87-2	8260B		ND		5.0	0.40	ug/L	1
Methylene chloride	75-09-2	8260B		ND		0.50	0.40	ug/L	1
Styrene	100-42-5	8260B		ND		0.50	0.40	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B		ND		0.50	0.40	ug/L	1
Tetrachloroethene	127-18-4	8260B		ND		0.50	0.40	ug/L	1
Toluene	108-88-3	8260B		ND		0.50	0.40	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B		ND		0.50	0.40	ug/L	1
1,2,3-Trichlorobenzene	87-61-6	8260B		ND		0.50	0.40	ug/L	1

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P = The RPD between two GC columns exceeds 40%

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Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Y. H. Ha
11/21/10

Volatile Organic Compounds by GC/MS

Client: Tetra Tech EM Inc.	Laboratory ID: RJ20010-013
Description: PSS-FB	Matrix: Aqueous
Date Sampled: 10/18/2016 1715	
Date Received: 10/20/2016	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260B	1	10/21/2016 1126	TML		24888		
Parameter	CAS Number	Analytical Method		Result	Q	PQL	MDL	Units	Run
1,2,4-Trichlorobenzene	120-82-1	8260B		ND		0.50	0.40	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B		ND		0.50	0.40	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B		ND		0.50	0.40	ug/L	1
Trichloroethene	79-01-6	8260B		ND		0.50	0.40	ug/L	1
Trichlorofluoromethane	75-69-4	8260B		ND		0.50	0.40	ug/L	1
Vinyl chloride	75-01-4	8260B		ND		0.50	0.40	ug/L	1
m+p - Xylenes	179601-23-1	8260B		ND		0.50	0.40	ug/L	1
o - Xylenes	95-47-6	8260B		ND		0.50	0.40	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits						
1,2-Dichloroethane-d4		107	70-130						
Bromofluorobenzene		98	70-130						
Toluene-d8		108	70-130						

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and \geq MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

L. Mar
11/22/16

Volatile Organic Compounds by GC/MS

Client: Tetra Tech EM Inc.	Laboratory ID: RJ20010-014
Description: TRIP BLANK	Matrix: Aqueous
Date Sampled: 10/18/2016	
Date Received: 10/20/2016	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260B	1	10/21/2016	TML		24888		
Parameter	CAS Number	Analytical Method		Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B		ND		10	2.0	ug/L	1
Benzene	71-43-2	8260B		ND		0.50	0.40	ug/L	1
Bromochloromethane	74-97-5	8260B		ND		0.50	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260B		ND		0.50	0.40	ug/L	1
Bromoform	75-25-2	8260B		ND		0.50	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B		ND		0.50	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260B		ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B		ND		0.50	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260B		ND		0.50	0.40	ug/L	1
Chlorobenzene	108-90-7	8260B		ND		0.50	0.40	ug/L	1
Chloroethane	75-00-3	8260B		ND		0.50	0.40	ug/L	1
Chloroform	67-66-3	8260B		ND		0.50	0.40	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B		ND		0.50	0.40	ug/L	1
Cyclohexane	110-82-7	8260B		ND		0.50	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B		ND		0.50	0.40	ug/L	1
Dibromochloromethane	124-48-1	8260B		ND		0.50	0.40	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B		ND		0.50	0.40	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B		ND		0.50	0.40	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B		ND		0.50	0.40	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B		ND		0.50	0.40	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B		ND		0.50	0.40	ug/L	1
1,1-Dichloroethane	75-34-3	8260B		ND		0.50	0.40	ug/L	1
1,2-Dichloroethane	107-06-2	8260B		ND		0.50	0.40	ug/L	1
1,1-Dichloroethene	75-35-4	8260B		ND		0.50	0.40	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B		ND		0.50	0.40	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B		ND		0.50	0.40	ug/L	1
1,2-Dichloropropane	78-87-5	8260B		ND		0.50	0.40	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B		ND		0.50	0.40	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B		ND		0.50	0.40	ug/L	1
1,4-Dioxane	123-91-1	8260B		ND		20	13	ug/L	1
Ethylbenzene	100-41-4	8260B		ND		0.50	0.40	ug/L	1
2-Hexanone	591-78-6	8260B		ND		10	2.0	ug/L	1
Isopropylbenzene	98-82-8	8260B		ND		0.50	0.40	ug/L	1
Methyl acetate	79-20-9	8260B		ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B		ND		0.50	0.40	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B		ND		10	2.0	ug/L	1
Methylcyclohexane	108-87-2	8260B		ND		5.0	0.40	ug/L	1
Methylene chloride	75-09-2	8260B		ND		0.50	0.40	ug/L	1
Styrene	100-42-5	8260B		ND		0.50	0.40	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B		ND		0.50	0.40	ug/L	1
Tetrachloroethene	127-18-4	8260B		ND		0.50	0.40	ug/L	1
Toluene	108-88-3	8260B		ND		0.50	0.40	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B		ND		0.50	0.40	ug/L	1
1,2,3-Trichlorobenzene	87-61-6	8260B		ND		0.50	0.40	ug/L	1

PQL = Practical quantitation limit

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J = Estimated result < PQL and \geq MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

L. Shealy
11/22/16

Volatile Organic Compounds by GC/MS

Client:Tetra Tech EM Inc.	Laboratory ID:RJ20010-014
Description: TRIP BLANK	Matrix: Aqueous
Date Sampled:10/18/2016	
Date Received:10/20/2016	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260B	1	10/21/2016	1103	TML	24888		
Parameter	CAS Number	Analytical Method		Result	Q	PQL	MDL	Units	Run
1,2,4-Trichlorobenzene	120-82-1	8260B		ND		0.50	0.40	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B		ND		0.50	0.40	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B		ND		0.50	0.40	ug/L	1
Trichloroethene	79-01-6	8260B		ND		0.50	0.40	ug/L	1
Trichlorofluoromethane	75-69-4	8260B		ND		0.50	0.40	ug/L	1
Vinyl chloride	75-01-4	8260B		ND		0.50	0.40	ug/L	1
m+p - Xylenes	179601-23-1	8260B		ND		0.50	0.40	ug/L	1
o - Xylenes	95-47-6	8260B		ND		0.50	0.40	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits						
1,2-Dichloroethane-d4		97	70-130						
Bromofluorobenzene		94	70-130						
Toluene-d8		103	70-130						

PQL = Practical quantitation limit

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Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

*L. Shealy
11/22/16*

ATTACHMENT 1
LABORATORY ANALYTICAL REPORT
(338 Sheets)



TT-02-025
Patterson Street Solvent Plume
Removal Assessment Letter Report



2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
F: +1 805 526 7270
www.alsglobal.com

LABORATORY REPORT

November 16, 2016

Nisreen Saikaly
Shealy Environmental Services Inc.
106 Vantage Point Drive
West Columbia, SC 29172

RE: Patterson Street

Dear Nisreen:

Enclosed are the results of the samples submitted to our laboratory on October 27, 2016. For your reference, these analyses have been assigned our service request number P1605059.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

Kelly Horiuchi
Laboratory Director



2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
F: +1 805 526 7270
www.alsglobal.com

Client: Shealy Environmental Services Inc.
Project: Patterson Street

Service Request No: P1605059

CASE NARRATIVE

The samples were received intact under chain of custody on October 27, 2016 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation, however it is not part of the AIHA-LAP accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The canisters were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.



2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
F: +1 805 526 7270
www.alsglobal.com

ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0694
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Florida DOH (NELAP)	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E871020
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/labcert.htm	2016036
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	977273
New Jersey DEP (NELAP)	http://www.nj.gov/dep/oqa/	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-003
Pennsylvania DEP	http://www.depweb.state.pa.us/labs	68-03307 (Registration)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704413-16-7
Utah DOH (NELAP)	http://www.health.utah.gov/lab/labimp/certification/index.html	CA01627201 6-6
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: Shealy Environmental Services Inc. Service Request: P1605059
 Project ID: Patterson Street
 Date Received: 10/27/2016
 Time Received: 09:40

TO-15 - VOC Cans

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	
PSS-CS-2836CAM	P1605059-001	Air	10/18/2016	08:10	AS01031	-3.31	3.52	X
PSS-CS-2836CAM-FENCE	P1605059-002	Air	10/18/2016	08:11	AS00665	-3.24	3.57	X
PSS-CS-2834CAM	P1605059-003	Air	10/18/2016	08:12	AC02150	-0.04	3.69	X
PSS-CS-2834CAM-DUP	P1605059-004	Air	10/18/2016	08:12	AS01037	-0.21	3.59	X
PSS-CS-1406SWAN	P1605059-005	Air	10/18/2016	08:50	AS01123	-2.34	3.50	X
PSS-CS-2832CAM	P1605059-006	Air	10/18/2016	08:13	AC02049	-3.99	3.60	X
PSS-CS-1407SWAN	P1605059-007	Air	10/18/2016	08:55	AS00774	-3.08	3.52	X
PSS-CS-1405SWAN	P1605059-008	Air	10/18/2016	08:58	AS00992	-3.78	3.62	X
PSS-SG-2836CAM	P1605059-009	Air	10/19/2016	09:48	1SC01258	-2.64	5.17	X
PSS-SG-2836CAM-SPLIT	P1605059-010	Air	10/19/2016	09:48	1SC01265	-1.67	5.72	X
PSS-SG-DITCH	P1605059-011	Air	10/19/2016	10:14	1SC00970	-2.46	7.28	X
PSS-SG-1407SWAN	P1605059-012	Air	10/19/2016	10:36	1SS00141	-2.86	6.37	X
PSS-CS-2836CAM-FENCE2	P1605059-013	Air	10/20/2016	09:20	AC01795	-2.14	3.52	X
PSS-CS-28434CAM-REPEAT	P1605059-014	Air	10/20/2016	09:25	AS00883	-3.65	3.72	X

TestAmerica Knoxville
5815 Middlebrook Pike

Sneaky

Canister Samples Chain of Custody Record

P1605059

Knoxville, TN 37921
Phone 865-291-3200 Fax 865-587-4344

TestAmerica Laboratories, Inc. assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact Information		Project Manager: <i>Jeffrey S. Vibors</i>		Samples Collected By: <i>John Snyder</i>		COC No: <i>1 of 2 COCs</i>																	
Company Name: <i>Tech</i>		Phone: <i>615-631-5727</i>				Per Lab Use Only:																	
Address: <i>1255 Carpenter Blvd</i>		Email: <i>jeff.vibors@tdtak.com</i>				Walk-in Client																	
City/State/Zip: <i>Nashville, TN 37212</i>		Site Contact: <i>John Snyder</i>				Lab Sampling																	
Phone: <i>615-725-3020</i>		TA Contact: <i>N/A</i>																					
FAX: <i>-</i>		Analysis Turnaround Time																					
Project Name: <i>Water Bar Street</i>		Standard (Specify)																					
Site Location: <i>Glenwood, NC</i>		Rush (Specify)																					
P.O. # <i>11-12-025</i>		Sample Description	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Bar)"	Canister Vacuum in Field, "Hg (Bar)"	Flow Controller ID	Canister ID	TO-1 (High / Low / Both)	MA-APM	EPA 35C / 35D	ATM Depth / 145 ft 3500	EPA 15016	TO-1	Other Phase (solid or liquid matrix)	Sample Type	Indoor Air / <i>C-500/9225</i>	Ambient Air	Suit Case	Last Date	Other Phase (solid or liquid matrix)		
①	<i>PSS-CS-2836CAM</i>	10/18/16 0705	0810	-29	-7	00230 AS0123																	
②	<i>PSS-CS-2831CAM-FENCE</i>	10/10/16	0811	-29	-6	00473 AS0125																	
③	<i>PSS-CS-2834CAM</i>	10/13/16	0812	-30	-1	00139 AS0126																	
④	<i>PSS-CS-2834CAM-JUP</i>	10/13/16	0812	-30	-3	00162 AS0127																	
⑤	<i>PSS-CS-1406SWAN</i>	10/10/16	0850	29	-5	00239 AS0123																	
⑥	<i>PSS-CS-2832 CAM</i>	10/17/16	0813	-31	-8	00116 AS0119																	
⑦	<i>PSS-CS-1407SWAN</i>	10/27/16	0856	29	-6	00234 AS0127																	
<i>ABANDONED SAMPLES</i>																							
⑧	<i>PSS-CS-1405SWAN</i>	10/28/16	0858	28	-9	0023 AS0112																	
				Temperature (Fahrenheit)																			
		Start	Interior	70°	Ambient	70°																	
		Stop		70°		70°																	
				Temperature (Fahrenheit)																			
		Start	Interior		Ambient																		
		Stop																					
Special Instructions/QC Requirements & Comments:																							
Samples Shipped by: <i>BWS Left to FedEx</i>		Date / Time: <i>10-24-16 / 1200</i>		Samples Received by: <i>FedEx</i>																			
Samples Relinquished by: <i>BWS Left to FedEx</i>		Date / Time: <i>10-24-16 / 1200</i>		Received by: <i>JH</i>																			
Relinquished by: <i>-</i>		Date / Time: <i>-</i>		Received by: <i>-</i>																			
Lab Use Only: <i>-</i>		Shipper Name: <i>-</i>		Opened by: <i>-</i>		Condition: <i>-</i>																	

TestAmerica Knoxville
5816 McGhee Trace

Knoxville, TN 37921
Phone 865.521.3000, Fax 865.524.4315

*Shelby
Labs*

Canister Samples Chain of Custody Record

TestAmerica Laboratories, Inc. assumes no liability with respect to the collection and shipment of these samples.

P1605059

~~TestAmerica~~

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact Information	Project Manager:	Samples Collected By:	Sample	COC No.																							
Company Name:	Phone:			<i>2016-00000000000000000000000000000000</i>																							
Address:	Email:																										
City/State Zip Post:	Site Contact:																										
Phone:	TA Contact:																										
FAX:																											
Project Name:	Analysis Turnaround Time																										
Site Location:	Standard (Specify)																										
PO #	Rush (Specify)																										
Sample Identification	Sample Date	Type Start	Type Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TG-15 (Read / Read Low / SWL)	NAAPL	EPA 9032	EPA 9032A	EPA 1916	TG-3	Sample Type	Other & Note (See Sample Specific Notes)	Indoor Air (See Sample Specific Notes)	Outdoor Air	Site Gas	Laboratory Gas	Other & Note (Specify in notes section)	Job / SDS No.	(See below for PO# notes)					
⑥ PSS-SG-2836 CAM	10/19	0913	0943	-27	-3																						
⑤ PSS-SG-2836 CAM-SPLIT		0913	0943	-30	-4																						
③ PSS-SG-0172H	10/08	1014		-29	-5																						
④ PSS-SG-14075WAN	✓	1031	1036	-27	-5																						
① PSS-SG-2836 CAM-FENCE2	10/19	1000	0920	-30	-5																						
② PSS-SG-2836 CAM-REPEAT	10/19	1023	0925	-29	-7																						
<i>soil gas samples:</i>																											
Temperature (Fahrenheit)																											
Start	Interior	Ambient		80°		90°																					
Stop																											
Temperature (Fahrenheit)																											
Start	Interior	Ambient																									
Stop																											
Special Instructions/QC Requirements & Comments:																											
Samples Shipped by:	Box Shipped to FedEx		Date / Time:	10-24-16 / 1200		Samples Received by:		FedEx																			
Samples Relinquished by:	Box Shipped to FedEx		Date / Time:	10-24-16 / 1200		Received by:		<i>RJ</i>																		<i>10/21/16 0940</i>	
Relinquished by:			Date / Time:			Received by:																					
Lab Use Only:	Shipper Name:		Opened by:		Condition:																						

ALS Environmental
Sample Acceptance Check Form

Client: Shealy Environmental Services Inc.

Work order: P1605059

Project: Patterson Street

Sample(s) received on: 10/27/16

Date opened: 10/27/16

by: ADAVID

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were sample containers properly marked with client sample ID?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Did sample containers arrive in good condition?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Were chain-of-custody papers used and filled out?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Did sample container labels and/or tags agree with custody papers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Was sample volume received adequate for analysis?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Are samples within specified holding times?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Was proper temperature (thermal preservation) of cooler at receipt adhered to?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8	Were custody seals on outside of cooler/Box/Container? Location of seal(s)? _____	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
		Sealing Lid?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Were signature and date included?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Were seals intact?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
9	Do containers have appropriate preservation , according to method/SOP or Client specified information? Is there a client indication that the submitted samples are pH preserved? Were VOA vials checked for presence/absence of air bubbles? Does the client/method/SOP require that the analyst check the sample pH and <u>if necessary</u> alter it?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10	Tubes: Are the tubes capped and intact?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
11	Badges: Are the badges properly capped and intact? Are dual bed badges separated and individually capped and intact?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1605059-001.01	6.0 L Silonite Can					
P1605059-002.01	6.0 L Silonite Can					
P1605059-003.01	6.0 L Ambient Can					
P1605059-004.01	6.0 L Silonite Can					
P1605059-005.01	6.0 L Silonite Can					
P1605059-006.01	6.0 L Ambient Can					
P1605059-007.01	6.0 L Silonite Can					
P1605059-008.01	6.0 L Silonite Can					
P1605059-009.01	1.0 L Source Can					
P1605059-010.01	1.0 L Source Can					
P1605059-011.01	1.0 L Source Can					
P1605059-012.01	1.0 L Source Silonite Canister					
P1605059-013.01	6.0 L Ambient Can					
P1605059-014.01	6.0 L Silonite Can					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-2836CAM
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-001

Test Code: EPA TO-15 Date Collected: 10 18 16
 Instrument ID: Tekmar AUTOCAN Agilent 5973inert 6890N MS8 Date Received: 10 27 16
 Analyst: Wida Ang Date Analyzed: 11 4 16
 Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
 Test Notes:
 Container ID: AS01031

Initial Pressure (psig): -3.31 Final Pressure (psig): 3.52

Canister Dilution Factor: 1.60

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	1.3	0.80	0.75	0.47	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.5	0.80	0.51	0.16	
74-87-3	Chloromethane	ND	0.80	ND	0.39	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.80	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.80	ND	0.31	
106-99-0	1,3-Butadiene	ND	0.80	ND	0.36	
74-83-9	Bromomethane	ND	0.80	ND	0.21	
75-00-3	Chloroethane	ND	0.80	ND	0.30	
64-17-5	Ethanol	ND	8.0	ND	4.2	
75-05-8	Acetonitrile	ND	0.80	ND	0.48	
107-02-8	Acrolein	ND	3.2	ND	1.4	
67-64-1	Acetone	ND	8.0	ND	3.4	
75-69-4	Trichlorofluoromethane	1.2	0.80	0.22	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	8.0	ND	3.3	
107-13-1	Acrylonitrile	ND	0.80	ND	0.37	
75-35-4	1,1-Dichloroethene	ND	0.80	ND	0.20	
75-09-2	Methylene Chloride	ND	0.80	ND	0.23	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.80	ND	0.26	
76-13-1	Trichlorotrifluoroethane	ND	0.80	ND	0.10	
75-15-0	Carbon Disulfide	ND	8.0	ND	2.6	
156-60-5	trans-1,2-Dichloroethene	ND	0.80	ND	0.20	
75-34-3	1,1-Dichloroethane	ND	0.80	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.80	ND	0.22	
108-05-4	Vinyl Acetate	ND	8.0	ND	2.3	
78-93-3	2-Butanone (MEK)	ND	8.0	ND	2.7	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 3

Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-2836CAM
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-001

Test Code: EPA TO-15 Date Collected: 10/18/16
 Instrument ID: Tekmar AUTOCAN Agilent 5973inert 6890N MS8 Date Received: 10/27/16
 Analyst: Wida Ang Date Analyzed: 11/4/16
 Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
 Test Notes:
 Container ID: AS01031

Initial Pressure (psig): -3.31 Final Pressure (psig): 3.52

Canister Dilution Factor: 1.60

CAS #	Compound	Result µg/m³	MRL µg m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.80	ND	0.20	
141-78-6	Ethyl Acetate	ND	1.6	ND	0.44	
110-54-3	n-Hexane	2.9	0.80	0.81	0.23	
67-66-3	Chloroform	ND	0.80	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	0.80	ND	0.27	
107-06-2	1,2-Dichloroethane	ND	0.80	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.80	ND	0.15	
71-43-2	Benzene	0.89	0.80	0.28	0.25	
56-23-5	Carbon Tetrachloride	ND	0.80	ND	0.13	
110-82-7	Cyclohexane	ND	1.6	ND	0.47	
78-87-5	1,2-Dichloropropane	ND	0.80	ND	0.17	
75-27-4	Bromodichloromethane	ND	0.80	ND	0.12	
79-01-6	Trichloroethene	ND	0.80	ND	0.15	
123-91-1	1,4-Dioxane	ND	0.80	ND	0.22	
80-62-6	Methyl Methacrylate	ND	1.6	ND	0.39	
142-82-5	n-Heptane	0.89	0.80	0.22	0.20	
10061-01-5	cis-1,3-Dichloropropene	ND	0.80	ND	0.18	
108-10-1	4-Methyl-2-pentanone	ND	0.80	ND	0.20	
10061-02-6	trans-1,3-Dichloropropene	ND	0.80	ND	0.18	
79-00-5	1,1,2-Trichloroethane	ND	0.80	ND	0.15	
108-88-3	Toluene	2.9	0.80	0.78	0.21	
591-78-6	2-Hexanone	ND	0.80	ND	0.20	
124-48-1	Dibromochloromethane	ND	0.80	ND	0.094	
106-93-4	1,2-Dibromoethane	ND	0.80	ND	0.10	
123-86-4	n-Butyl Acetate	ND	0.80	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 3 of 3

Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-2836CAM
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-001

Test Code: EPA TO-15 Date Collected: 10 18 16
 Instrument ID: Tekmar AUTO CAN Agilent 5973inert 6890N MS8 Date Received: 10 27 16
 Analyst: Wida Ang Date Analyzed: 11 4 16
 Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
 Test Notes:
 Container ID: AS01031

Initial Pressure (psig): -3.31 Final Pressure (psig): 3.52

Canister Dilution Factor: 1.60

CAS #	Compound	Result µg/m³	MRL µg m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.80	ND	0.17	
127-18-4	Tetrachloroethene	ND	0.80	ND	0.12	
108-90-7	Chlorobenzene	ND	0.80	ND	0.17	
100-41-4	Ethylbenzene	ND	0.80	ND	0.18	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.37	
75-25-2	Bromoform	ND	0.80	ND	0.077	
100-42-5	Styrene	ND	0.80	ND	0.19	
95-47-6	o-Xylene	0.99	0.80	0.23	0.18	
111-84-2	n-Nonane	ND	0.80	ND	0.15	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.80	ND	0.12	
98-82-8	Cumene	ND	0.80	ND	0.16	
80-56-8	alpha-Pinene	ND	0.80	ND	0.14	
103-65-1	n-Propylbenzene	ND	0.80	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.80	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.80	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.80	ND	0.16	
100-44-7	Benzyl Chloride	ND	0.80	ND	0.15	
541-73-1	1,3-Dichlorobenzene	ND	0.80	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.80	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.80	ND	0.13	
5989-27-5	d-Limonene	ND	0.80	ND	0.14	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.80	ND	0.083	
120-82-1	1,2,4-Trichlorobenzene	ND	0.80	ND	0.11	
91-20-3	Naphthalene	ND	0.80	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.80	ND	0.075	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-2836CAM-FENCE
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-002

Test Code: EPA TO-15 Date Collected: 10/18/16
 Instrument ID: Tekmar AUTOCAN Agilent 5973inert 6890N MS8 Date Received: 10/27/16
 Analyst: Wida Ang Date Analyzed: 11/4/16
 Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
 Test Notes:
 Container ID: AS00665

Initial Pressure (psig): -3.24 Final Pressure (psig): 3.57

Canister Dilution Factor: 1.59

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.80	ND	0.46	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.3	0.80	0.47	0.16	
74-87-3	Chloromethane	ND	0.80	ND	0.39	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.80	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.80	ND	0.31	
106-99-0	1,3-Butadiene	ND	0.80	ND	0.36	
74-83-9	Bromomethane	ND	0.80	ND	0.20	
75-00-3	Chloroethane	ND	0.80	ND	0.30	
64-17-5	Ethanol	ND	8.0	ND	4.2	
75-05-8	Acetonitrile	ND	0.80	ND	0.47	
107-02-8	Acrolein	ND	3.2	ND	1.4	
67-64-1	Acetone	ND	8.0	ND	3.3	
75-69-4	Trichlorofluoromethane	1.3	0.80	0.22	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	8.0	ND	3.2	
107-13-1	Acrylonitrile	ND	0.80	ND	0.37	
75-35-4	1,1-Dichloroethene	ND	0.80	ND	0.20	
75-09-2	Methylene Chloride	ND	0.80	ND	0.23	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.80	ND	0.25	
76-13-1	Trichlorotrifluoroethane	ND	0.80	ND	0.10	
75-15-0	Carbon Disulfide	ND	8.0	ND	2.6	
156-60-5	trans-1,2-Dichloroethene	ND	0.80	ND	0.20	
75-34-3	1,1-Dichloroethane	ND	0.80	ND	0.20	
1634-04-4	Methyl tert-Butyl Ether	ND	0.80	ND	0.22	
108-05-4	Vinyl Acetate	ND	8.0	ND	2.3	
78-93-3	2-Butanone (MEK)	ND	8.0	ND	2.7	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

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RESULTS OF ANALYSIS

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Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-2836CAM-FENCE
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-002

Test Code: EPA TO-15 Date Collected: 10/18/16
 Instrument ID: Tekmar AUTOCAN Agilent 5973inert 6890N MS8 Date Received: 10/27/16
 Analyst: Wida Ang Date Analyzed: 11/4/16
 Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
 Test Notes:
 Container ID: AS00665

Initial Pressure (psig): -3.24 Final Pressure (psig): 3.57

Canister Dilution Factor: 1.59

CAS #	Compound	Result µg/m³	MRL µg m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.80	ND	0.20	
141-78-6	Ethyl Acetate	ND	1.6	ND	0.44	
110-54-3	n-Hexane	2.6	0.80	0.73	0.23	
67-66-3	Chloroform	ND	0.80	ND	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	0.80	ND	0.27	
107-06-2	1,2-Dichloroethane	ND	0.80	ND	0.20	
71-55-6	1,1,1-Trichloroethane	ND	0.80	ND	0.15	
71-43-2	Benzene	0.88	0.80	0.27	0.25	
56-23-5	Carbon Tetrachloride	ND	0.80	ND	0.13	
110-82-7	Cyclohexane	ND	1.6	ND	0.46	
78-87-5	1,2-Dichloropropane	ND	0.80	ND	0.17	
75-27-4	Bromodichloromethane	ND	0.80	ND	0.12	
79-01-6	Trichloroethene	ND	0.80	ND	0.15	
123-91-1	1,4-Dioxane	ND	0.80	ND	0.22	
80-62-6	Methyl Methacrylate	ND	1.6	ND	0.39	
142-82-5	n-Heptane	0.84	0.80	0.21	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.80	ND	0.18	
108-10-1	4-Methyl-2-pentanone	ND	0.80	ND	0.19	
10061-02-6	trans-1,3-Dichloropropene	ND	0.80	ND	0.18	
79-00-5	1,1,2-Trichloroethane	ND	0.80	ND	0.15	
108-88-3	Toluene	2.9	0.80	0.78	0.21	
591-78-6	2-Hexanone	ND	0.80	ND	0.19	
124-48-1	Dibromochloromethane	ND	0.80	ND	0.093	
106-93-4	1,2-Dibromoethane	ND	0.80	ND	0.10	
123-86-4	n-Butyl Acetate	ND	0.80	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-2836CAM-FENCE
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-002

Test Code: EPA TO-15 Date Collected: 10/18/16
 Instrument ID: Tekmar AUTOCAN Agilent 5973inert 6890N MS8 Date Received: 10/27/16
 Analyst: Wida Ang Date Analyzed: 11/4/16
 Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
 Test Notes:
 Container ID: AS00665

Initial Pressure (psig): -3.24 Final Pressure (psig): 3.57

Canister Dilution Factor: 1.59

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.80	ND	0.17	
127-18-4	Tetrachloroethene	ND	0.80	ND	0.12	
108-90-7	Chlorobenzene	ND	0.80	ND	0.17	
100-41-4	Ethylbenzene	ND	0.80	ND	0.18	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.37	
75-25-2	Bromoform	ND	0.80	ND	0.077	
100-42-5	Styrene	ND	0.80	ND	0.19	
95-47-6	o-Xylene	ND	0.80	ND	0.18	
111-84-2	n-Nonane	ND	0.80	ND	0.15	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.80	ND	0.12	
98-82-8	Cumene	ND	0.80	ND	0.16	
80-56-8	alpha-Pinene	ND	0.80	ND	0.14	
103-65-1	n-Propylbenzene	ND	0.80	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.80	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.80	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.80	ND	0.16	
100-44-7	Benzyl Chloride	ND	0.80	ND	0.15	
541-73-1	1,3-Dichlorobenzene	ND	0.80	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.80	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.80	ND	0.13	
5989-27-5	d-Limonene	ND	0.80	ND	0.14	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.80	ND	0.082	
120-82-1	1,2,4-Trichlorobenzene	ND	0.80	ND	0.11	
91-20-3	Naphthalene	ND	0.80	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.80	ND	0.075	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Shealy Environmental Services Inc.

Client Sample ID: PSS-CS-2834CAM

Client Project ID: Patterson Street

ALS Project ID: P1605059

ALS Sample ID: P1605059-003

Test Code: EPA TO-15

Date Collected: 10/18/16

Instrument ID: Tekmar AUTOCAN Agilent 5973inert 6890N MS8

Date Received: 10/27/16

Analyst: Wida Ang

Date Analyzed: 11/4/16

Sample Type: 6.0 L Summa Canister

Volume(s) Analyzed: 1.00 Liter(s)

Test Notes:

Container ID: AC02150

Initial Pressure (psig): -0.04 Final Pressure (psig): 3.69

Canister Dilution Factor: 1.25

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	1.4	0.63	0.81	0.36	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.4	0.63	0.48	0.13	
74-87-3	Chloromethane	ND	0.63	ND	0.30	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.63	ND	0.089	
75-01-4	Vinyl Chloride	ND	0.63	ND	0.24	
106-99-0	1,3-Butadiene	ND	0.63	ND	0.28	
74-83-9	Bromomethane	ND	0.63	ND	0.16	
75-00-3	Chloroethane	ND	0.63	ND	0.24	
64-17-5	Ethanol	7.7	6.3	4.1	3.3	
75-05-8	Acetonitrile	ND	0.63	ND	0.37	
107-02-8	Acrolein	ND	2.5	ND	1.1	
67-64-1	Acetone	15	6.3	6.1	2.6	
75-69-4	Trichlorofluoromethane	1.2	0.63	0.22	0.11	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	6.3	ND	2.5	
107-13-1	Acrylonitrile	ND	0.63	ND	0.29	
75-35-4	1,1-Dichloroethene	1.3	0.63	0.34	0.16	
75-09-2	Methylene Chloride	ND	0.63	ND	0.18	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.63	ND	0.20	
76-13-1	Trichlorotrifluoroethane	ND	0.63	ND	0.082	
75-15-0	Carbon Disulfide	ND	6.3	ND	2.0	
156-60-5	trans-1,2-Dichloroethene	ND	0.63	ND	0.16	
75-34-3	1,1-Dichloroethane	ND	0.63	ND	0.15	
1634-04-4	Methyl tert-Butyl Ether	ND	0.63	ND	0.17	
108-05-4	Vinyl Acetate	ND	6.3	ND	1.8	
78-93-3	2-Butanone (MEK)	ND	6.3	ND	2.1	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 3

Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-2834CAM
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-003

Test Code: EPA TO-15 Date Collected: 10/18/16
 Instrument ID: Tekmar AUTOCAN Agilent 5973inert 6890N MS8 Date Received: 10/27/16
 Analyst: Wida Ang Date Analyzed: 11/4/16
 Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
 Test Notes:
 Container ID: AC02150

Initial Pressure (psig): -0.04 Final Pressure (psig): 3.69

Canister Dilution Factor: 1.25

CAS #	Compound	Result µg/m³	MRL µg m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.63	ND	0.16	
141-78-6	Ethyl Acetate	1.8	1.3	0.49	0.35	
110-54-3	n-Hexane	5.8	0.63	1.6	0.18	
67-66-3	Chloroform	ND	0.63	ND	0.13	
109-99-9	Tetrahydrofuran (THF)	ND	0.63	ND	0.21	
107-06-2	1,2-Dichloroethane	ND	0.63	ND	0.15	
71-55-6	1,1,1-Trichloroethane	ND	0.63	ND	0.11	
71-43-2	Benzene	1.5	0.63	0.47	0.20	
56-23-5	Carbon Tetrachloride	ND	0.63	ND	0.099	
110-82-7	Cyclohexane	ND	1.3	ND	0.36	
78-87-5	1,2-Dichloropropane	ND	0.63	ND	0.14	
75-27-4	Bromodichloromethane	ND	0.63	ND	0.093	
79-01-6	Trichloroethene	0.81	0.63	0.15	0.12	
123-91-1	1,4-Dioxane	ND	0.63	ND	0.17	
80-62-6	Methyl Methacrylate	ND	1.3	ND	0.31	
142-82-5	n-Heptane	1.3	0.63	0.31	0.15	
10061-01-5	cis-1,3-Dichloropropene	ND	0.63	ND	0.14	
108-10-1	4-Methyl-2-pentanone	ND	0.63	ND	0.15	
10061-02-6	trans-1,3-Dichloropropene	ND	0.63	ND	0.14	
79-00-5	1,1,2-Trichloroethane	ND	0.63	ND	0.11	
108-88-3	Toluene	6.3	0.63	1.7	0.17	
591-78-6	2-Hexanone	1.0	0.63	0.26	0.15	
124-48-1	Dibromochloromethane	ND	0.63	ND	0.073	
106-93-4	1,2-Dibromoethane	ND	0.63	ND	0.081	
123-86-4	n-Butyl Acetate	ND	0.63	ND	0.13	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-2834CAM
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-003

Test Code: EPA TO-15 Date Collected: 10 18 16
 Instrument ID: Tekmar AUTOCAN Agilent 5973inert 6890N MS8 Date Received: 10 27 16
 Analyst: Wida Ang Date Analyzed: 11 4 16
 Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
 Test Notes:
 Container ID: AC02150

Initial Pressure (psig): -0.04 Final Pressure (psig): 3.69

Canister Dilution Factor: 1.25

CAS #	Compound	Result µg/m³	MRL µg m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.63	ND	0.13	
127-18-4	Tetrachloroethene	1.4	0.63	0.20	0.092	
108-90-7	Chlorobenzene	ND	0.63	ND	0.14	
100-41-4	Ethylbenzene	0.97	0.63	0.22	0.14	
179601-23-1	m,p-Xylenes	3.4	1.3	0.78	0.29	
75-25-2	Bromoform	ND	0.63	ND	0.060	
100-42-5	Styrene	ND	0.63	ND	0.15	
95-47-6	o-Xylene	1.3	0.63	0.29	0.14	
111-84-2	n-Nonane	ND	0.63	ND	0.12	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.63	ND	0.091	
98-82-8	Cumene	ND	0.63	ND	0.13	
80-56-8	alpha-Pinene	ND	0.63	ND	0.11	
103-65-1	n-Propylbenzene	ND	0.63	ND	0.13	
622-96-8	4-Ethyltoluene	ND	0.63	ND	0.13	
108-67-8	1,3,5-Trimethylbenzene	ND	0.63	ND	0.13	
95-63-6	1,2,4-Trimethylbenzene	0.90	0.63	0.18	0.13	
100-44-7	Benzyl Chloride	ND	0.63	ND	0.12	
541-73-1	1,3-Dichlorobenzene	ND	0.63	ND	0.10	
106-46-7	1,4-Dichlorobenzene	ND	0.63	ND	0.10	
95-50-1	1,2-Dichlorobenzene	ND	0.63	ND	0.10	
5989-27-5	d-Limonene	ND	0.63	ND	0.11	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.63	ND	0.065	
120-82-1	1,2,4-Trichlorobenzene	ND	0.63	ND	0.084	
91-20-3	Naphthalene	ND	0.63	ND	0.12	
87-68-3	Hexachlorobutadiene	ND	0.63	ND	0.059	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-2834CAM-DUP
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-004

Test Code: EPA TO-15 Date Collected: 10/18/16
 Instrument ID: Tekmar AUTOCAN Agilent 5973inert 6890N MS8 Date Received: 10/27/16
 Analyst: Wida Ang Date Analyzed: 11/4/16
 Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
 Test Notes:
 Container ID: AS01037

Initial Pressure (psig): -0.21 Final Pressure (psig): 3.59

Canister Dilution Factor: 1.26

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	1.1	0.63	0.62	0.37	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.6	0.63	0.52	0.13	
74-87-3	Chloromethane	ND	0.63	ND	0.31	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.63	ND	0.090	
75-01-4	Vinyl Chloride	ND	0.63	ND	0.25	
106-99-0	1,3-Butadiene	ND	0.63	ND	0.28	
74-83-9	Bromomethane	ND	0.63	ND	0.16	
75-00-3	Chloroethane	ND	0.63	ND	0.24	
64-17-5	Ethanol	9.5	6.3	5.0	3.3	
75-05-8	Acetonitrile	ND	0.63	ND	0.38	
107-02-8	Acrolein	ND	2.5	ND	1.1	
67-64-1	Acetone	7.9	6.3	3.3	2.7	
75-69-4	Trichlorofluoromethane	1.3	0.63	0.23	0.11	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	6.3	ND	2.6	
107-13-1	Acrylonitrile	ND	0.63	ND	0.29	
75-35-4	1,1-Dichloroethene	1.2	0.63	0.29	0.16	
75-09-2	Methylene Chloride	ND	0.63	ND	0.18	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.63	ND	0.20	
76-13-1	Trichlorotrifluoroethane	ND	0.63	ND	0.082	
75-15-0	Carbon Disulfide	ND	6.3	ND	2.0	
156-60-5	trans-1,2-Dichloroethene	ND	0.63	ND	0.16	
75-34-3	1,1-Dichloroethane	ND	0.63	ND	0.16	
1634-04-4	Methyl tert-Butyl Ether	ND	0.63	ND	0.17	
108-05-4	Vinyl Acetate	ND	6.3	ND	1.8	
78-93-3	2-Butanone (MEK)	ND	6.3	ND	2.1	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-2834CAM-DUP
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-004

Test Code: EPA TO-15 Date Collected: 10/18/16
 Instrument ID: Tekmar AUTOCAN Agilent 5973inert 6890N MS8 Date Received: 10/27/16
 Analyst: Wida Ang Date Analyzed: 11/4/16
 Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
 Test Notes:
 Container ID: AS01037

Initial Pressure (psig): -0.21 Final Pressure (psig): 3.59

Canister Dilution Factor: 1.26

CAS #	Compound	Result µg/m³	MRL µg m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.63	ND	0.16	
141-78-6	Ethyl Acetate	2.0	1.3	0.55	0.35	
110-54-3	n-Hexane	5.5	0.63	1.6	0.18	
67-66-3	Chloroform	ND	0.63	ND	0.13	
109-99-9	Tetrahydrofuran (THF)	ND	0.63	ND	0.21	
107-06-2	1,2-Dichloroethane	ND	0.63	ND	0.16	
71-55-6	1,1,1-Trichloroethane	ND	0.63	ND	0.12	
71-43-2	Benzene	1.5	0.63	0.46	0.20	
56-23-5	Carbon Tetrachloride	ND	0.63	ND	0.10	
110-82-7	Cyclohexane	ND	1.3	ND	0.37	
78-87-5	1,2-Dichloropropane	ND	0.63	ND	0.14	
75-27-4	Bromodichloromethane	ND	0.63	ND	0.094	
79-01-6	Trichloroethene	0.78	0.63	0.15	0.12	
123-91-1	1,4-Dioxane	ND	0.63	ND	0.17	
80-62-6	Methyl Methacrylate	ND	1.3	ND	0.31	
142-82-5	n-Heptane	1.3	0.63	0.31	0.15	
10061-01-5	cis-1,3-Dichloropropene	ND	0.63	ND	0.14	
108-10-1	4-Methyl-2-pentanone	ND	0.63	ND	0.15	
10061-02-6	trans-1,3-Dichloropropene	ND	0.63	ND	0.14	
79-00-5	1,1,2-Trichloroethane	ND	0.63	ND	0.12	
108-88-3	Toluene	6.4	0.63	1.7	0.17	
591-78-6	2-Hexanone	ND	0.63	ND	0.15	
124-48-1	Dibromochloromethane	ND	0.63	ND	0.074	
106-93-4	1,2-Dibromoethane	ND	0.63	ND	0.082	
123-86-4	n-Butyl Acetate	ND	0.63	ND	0.13	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Shealy Environmental Services Inc.

Client Sample ID: PSS-CS-2834CAM-DUP

Client Project ID: Patterson Street

ALS Project ID: P1605059

ALS Sample ID: P1605059-004

Test Code: EPA TO-15

Date Collected: 10 18 16

Instrument ID: Tekmar AUTO CAN Agilent 5973inert 6890N MS8

Date Received: 10 27 16

Analyst: Wida Ang

Date Analyzed: 11 4 16

Sample Type: 6.0 L Silonite Canister

Volume(s) Analyzed: 1.00 Liter(s)

Test Notes:

Container ID: AS01037

Initial Pressure (psig): -0.21 Final Pressure (psig): 3.59

Canister Dilution Factor: 1.26

CAS #	Compound	Result µg/m³	MRL µg m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.63	ND	0.13	
127-18-4	Tetrachloroethene	1.2	0.63	0.18	0.093	
108-90-7	Chlorobenzene	ND	0.63	ND	0.14	
100-41-4	Ethylbenzene	1.0	0.63	0.23	0.15	
179601-23-1	m,p-Xylenes	3.4	1.3	0.77	0.29	
75-25-2	Bromoform	ND	0.63	ND	0.061	
100-42-5	Styrene	ND	0.63	ND	0.15	
95-47-6	o-Xylene	1.3	0.63	0.29	0.15	
111-84-2	n-Nonane	ND	0.63	ND	0.12	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.63	ND	0.092	
98-82-8	Cumene	ND	0.63	ND	0.13	
80-56-8	alpha-Pinene	ND	0.63	ND	0.11	
103-65-1	n-Propylbenzene	ND	0.63	ND	0.13	
622-96-8	4-Ethyltoluene	ND	0.63	ND	0.13	
108-67-8	1,3,5-Trimethylbenzene	ND	0.63	ND	0.13	
95-63-6	1,2,4-Trimethylbenzene	0.86	0.63	0.17	0.13	
100-44-7	Benzyl Chloride	ND	0.63	ND	0.12	
541-73-1	1,3-Dichlorobenzene	ND	0.63	ND	0.10	
106-46-7	1,4-Dichlorobenzene	ND	0.63	ND	0.10	
95-50-1	1,2-Dichlorobenzene	ND	0.63	ND	0.10	
5989-27-5	d-Limonene	ND	0.63	ND	0.11	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.63	ND	0.065	
120-82-1	1,2,4-Trichlorobenzene	ND	0.63	ND	0.085	
91-20-3	Naphthalene	ND	0.63	ND	0.12	
87-68-3	Hexachlorobutadiene	ND	0.63	ND	0.059	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 3

Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-1406SWAN
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-005

Test Code: EPA TO-15 Date Collected: 10 18 16
 Instrument ID: Tekmar AUTOCAN Agilent 5973inert 6890N MS8 Date Received: 10 27 16
 Analyst: Wida Ang Date Analyzed: 11 4 16
 Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
 Test Notes:
 Container ID: AS01123

Initial Pressure (psig): -2.34 Final Pressure (psig): 3.50

Canister Dilution Factor: 1.47

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	1.8	0.74	1.1	0.43	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.5	0.74	0.51	0.15	
74-87-3	Chloromethane	ND	0.74	ND	0.36	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.74	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.74	ND	0.29	
106-99-0	1,3-Butadiene	ND	0.74	ND	0.33	
74-83-9	Bromomethane	ND	0.74	ND	0.19	
75-00-3	Chloroethane	ND	0.74	ND	0.28	
64-17-5	Ethanol	18	7.4	9.6	3.9	
75-05-8	Acetonitrile	ND	0.74	ND	0.44	
107-02-8	Acrolein	ND	2.9	ND	1.3	
67-64-1	Acetone	19	7.4	8.1	3.1	
75-69-4	Trichlorofluoromethane	1.3	0.74	0.23	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	7.7	7.4	3.1	3.0	
107-13-1	Acrylonitrile	ND	0.74	ND	0.34	
75-35-4	1,1-Dichloroethene	ND	0.74	ND	0.19	
75-09-2	Methylene Chloride	ND	0.74	ND	0.21	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.74	ND	0.23	
76-13-1	Trichlorotrifluoroethane	ND	0.74	ND	0.096	
75-15-0	Carbon Disulfide	ND	7.4	ND	2.4	
156-60-5	trans-1,2-Dichloroethene	ND	0.74	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.74	ND	0.18	
1634-04-4	Methyl tert-Butyl Ether	ND	0.74	ND	0.20	
108-05-4	Vinyl Acetate	ND	7.4	ND	2.1	
78-93-3	2-Butanone (MEK)	ND	7.4	ND	2.5	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 3

Client: Shealy Environmental Services Inc.

Client Sample ID: PSS-CS-1406SWAN

Client Project ID: Patterson Street

ALS Project ID: P1605059

ALS Sample ID: P1605059-005

Test Code: EPA TO-15

Date Collected: 10 18 16

Instrument ID: Tekmar AUTO CAN Agilent 5973inert 6890N MS8

Date Received: 10 27 16

Analyst: Wida Ang

Date Analyzed: 11 4 16

Sample Type: 6.0 L Silonite Canister

Volume(s) Analyzed: 1.00 Liter(s)

Test Notes:

Container ID: AS01123

Initial Pressure (psig): -2.34 Final Pressure (psig): 3.50

Canister Dilution Factor: 1.47

CAS #	Compound	Result µg/m³	MRL µg m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.74	ND	0.19	
141-78-6	Ethyl Acetate	2.7	1.5	0.74	0.41	
110-54-3	n-Hexane	9.4	0.74	2.7	0.21	
67-66-3	Chloroform	1.5	0.74	0.31	0.15	
109-99-9	Tetrahydrofuran (THF)	ND	0.74	ND	0.25	
107-06-2	1,2-Dichloroethane	ND	0.74	ND	0.18	
71-55-6	1,1,1-Trichloroethane	ND	0.74	ND	0.13	
71-43-2	Benzene	2.5	0.74	0.78	0.23	
56-23-5	Carbon Tetrachloride	ND	0.74	ND	0.12	
110-82-7	Cyclohexane	1.9	1.5	0.55	0.43	
78-87-5	1,2-Dichloropropane	ND	0.74	ND	0.16	
75-27-4	Bromodichloromethane	ND	0.74	ND	0.11	
79-01-6	Trichloroethene	ND	0.74	ND	0.14	
123-91-1	1,4-Dioxane	ND	0.74	ND	0.20	
80-62-6	Methyl Methacrylate	ND	1.5	ND	0.36	
142-82-5	n-Heptane	4.0	0.74	0.97	0.18	
10061-01-5	cis-1,3-Dichloropropene	ND	0.74	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	0.74	ND	0.18	
10061-02-6	trans-1,3-Dichloropropene	ND	0.74	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.74	ND	0.13	
108-88-3	Toluene	15	0.74	4.0	0.20	
591-78-6	2-Hexanone	ND	0.74	ND	0.18	
124-48-1	Dibromochloromethane	ND	0.74	ND	0.086	
106-93-4	1,2-Dibromoethane	ND	0.74	ND	0.096	
123-86-4	n-Butyl Acetate	ND	0.74	ND	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Shealy Environmental Services Inc.

Client Sample ID: PSS-CS-1406SWAN

Client Project ID: Patterson Street

ALS Project ID: P1605059

ALS Sample ID: P1605059-005

Test Code: EPA TO-15

Date Collected: 10 18 16

Instrument ID: Tekmar AUTO CAN Agilent 5973inert 6890N MS8

Date Received: 10 27 16

Analyst: Wida Ang

Date Analyzed: 11 4 16

Sample Type: 6.0 L Silonite Canister

Volume(s) Analyzed: 1.00 Liter(s)

Test Notes:

Container ID: AS01123

Initial Pressure (psig): -2.34 Final Pressure (psig): 3.50

Canister Dilution Factor: 1.47

CAS #	Compound	Result µg/m³	MRL µg m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	1.8	0.74	0.40	0.16	
127-18-4	Tetrachloroethene	ND	0.74	ND	0.11	
108-90-7	Chlorobenzene	ND	0.74	ND	0.16	
100-41-4	Ethylbenzene	3.3	0.74	0.76	0.17	
179601-23-1	m,p-Xylenes	12	1.5	2.7	0.34	
75-25-2	Bromoform	ND	0.74	ND	0.071	
100-42-5	Styrene	ND	0.74	ND	0.17	
95-47-6	o-Xylene	4.6	0.74	1.1	0.17	
111-84-2	n-Nonane	1.1	0.74	0.20	0.14	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.74	ND	0.11	
98-82-8	Cumene	ND	0.74	ND	0.15	
80-56-8	alpha-Pinene	2.3	0.74	0.41	0.13	
103-65-1	n-Propylbenzene	1.0	0.74	0.21	0.15	
622-96-8	4-Ethyltoluene	1.5	0.74	0.30	0.15	
108-67-8	1,3,5-Trimethylbenzene	1.5	0.74	0.30	0.15	
95-63-6	1,2,4-Trimethylbenzene	5.4	0.74	1.1	0.15	
100-44-7	Benzyl Chloride	ND	0.74	ND	0.14	
541-73-1	1,3-Dichlorobenzene	ND	0.74	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.74	ND	0.12	
95-50-1	1,2-Dichlorobenzene	ND	0.74	ND	0.12	
5989-27-5	d-Limonene	3.3	0.74	0.60	0.13	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.74	ND	0.076	
120-82-1	1,2,4-Trichlorobenzene	ND	0.74	ND	0.099	
91-20-3	Naphthalene	1.4	0.74	0.26	0.14	
87-68-3	Hexachlorobutadiene	ND	0.74	ND	0.069	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-2832CAM
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-006

Test Code: EPA TO-15 Date Collected: 10/18/16
 Instrument ID: Tekmar AUTOCAN Agilent 5973inert 6890N MS8 Date Received: 10/27/16
 Analyst: Wida Ang Date Analyzed: 11/4/16
 Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
 Test Notes:
 Container ID: AC02049

Initial Pressure (psig): -3.99 Final Pressure (psig): 3.60

Canister Dilution Factor: 1.71

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	1.4	0.86	0.83	0.50	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.6	0.86	0.53	0.17	
74-87-3	Chloromethane	ND	0.86	ND	0.41	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.86	ND	0.12	
75-01-4	Vinyl Chloride	ND	0.86	ND	0.33	
106-99-0	1,3-Butadiene	ND	0.86	ND	0.39	
74-83-9	Bromomethane	ND	0.86	ND	0.22	
75-00-3	Chloroethane	ND	0.86	ND	0.32	
64-17-5	Ethanol	ND	8.6	ND	4.5	
75-05-8	Acetonitrile	ND	0.86	ND	0.51	
107-02-8	Acrolein	ND	3.4	ND	1.5	
67-64-1	Acetone	9.3	8.6	3.9	3.6	
75-69-4	Trichlorofluoromethane	1.2	0.86	0.22	0.15	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	8.6	ND	3.5	
107-13-1	Acrylonitrile	ND	0.86	ND	0.39	
75-35-4	1,1-Dichloroethene	29	0.86	7.3	0.22	
75-09-2	Methylene Chloride	ND	0.86	ND	0.25	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.86	ND	0.27	
76-13-1	Trichlorotrifluoroethane	ND	0.86	ND	0.11	
75-15-0	Carbon Disulfide	ND	8.6	ND	2.7	
156-60-5	trans-1,2-Dichloroethene	ND	0.86	ND	0.22	
75-34-3	1,1-Dichloroethane	ND	0.86	ND	0.21	
1634-04-4	Methyl tert-Butyl Ether	ND	0.86	ND	0.24	
108-05-4	Vinyl Acetate	ND	8.6	ND	2.4	
78-93-3	2-Butanone (MEK)	ND	8.6	ND	2.9	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 3

Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-2832CAM
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-006

Test Code: EPA TO-15 Date Collected: 10/18/16
 Instrument ID: Tekmar AUTOCAN Agilent 5973inert 6890N MS8 Date Received: 10/27/16
 Analyst: Wida Ang Date Analyzed: 11/4/16
 Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
 Test Notes:
 Container ID: AC02049

Initial Pressure (psig): -3.99 Final Pressure (psig): 3.60

Canister Dilution Factor: 1.71

CAS #	Compound	Result µg/m³	MRL µg m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.86	ND	0.22	
141-78-6	Ethyl Acetate	2.2	1.7	0.62	0.47	
110-54-3	n-Hexane	2.9	0.86	0.81	0.24	
67-66-3	Chloroform	ND	0.86	ND	0.18	
109-99-9	Tetrahydrofuran (THF)	ND	0.86	ND	0.29	
107-06-2	1,2-Dichloroethane	ND	0.86	ND	0.21	
71-55-6	1,1,1-Trichloroethane	ND	0.86	ND	0.16	
71-43-2	Benzene	0.90	0.86	0.28	0.27	
56-23-5	Carbon Tetrachloride	ND	0.86	ND	0.14	
110-82-7	Cyclohexane	ND	1.7	ND	0.50	
78-87-5	1,2-Dichloropropane	ND	0.86	ND	0.19	
75-27-4	Bromodichloromethane	ND	0.86	ND	0.13	
79-01-6	Trichloroethene	6.6	0.86	1.2	0.16	
123-91-1	1,4-Dioxane	ND	0.86	ND	0.24	
80-62-6	Methyl Methacrylate	ND	1.7	ND	0.42	
142-82-5	n-Heptane	0.86	0.86	0.21	0.21	
10061-01-5	cis-1,3-Dichloropropene	ND	0.86	ND	0.19	
108-10-1	4-Methyl-2-pentanone	ND	0.86	ND	0.21	
10061-02-6	trans-1,3-Dichloropropene	ND	0.86	ND	0.19	
79-00-5	1,1,2-Trichloroethane	ND	0.86	ND	0.16	
108-88-3	Toluene	3.0	0.86	0.81	0.23	
591-78-6	2-Hexanone	ND	0.86	ND	0.21	
124-48-1	Dibromochloromethane	ND	0.86	ND	0.10	
106-93-4	1,2-Dibromoethane	ND	0.86	ND	0.11	
123-86-4	n-Butyl Acetate	ND	0.86	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 3 of 3

Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-2832CAM
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-006

Test Code: EPA TO-15 Date Collected: 10 18 16
 Instrument ID: Tekmar AUTOCAN Agilent 5973inert 6890N MS8 Date Received: 10 27 16
 Analyst: Wida Ang Date Analyzed: 11 4 16
 Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
 Test Notes:
 Container ID: AC02049

Initial Pressure (psig): -3.99 Final Pressure (psig): 3.60

Canister Dilution Factor: 1.71

CAS #	Compound	Result µg/m³	MRL µg m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.86	ND	0.18	
127-18-4	Tetrachloroethene	16	0.86	2.4	0.13	
108-90-7	Chlorobenzene	ND	0.86	ND	0.19	
100-41-4	Ethylbenzene	ND	0.86	ND	0.20	
179601-23-1	m,p-Xylenes	ND	1.7	ND	0.39	
75-25-2	Bromoform	ND	0.86	ND	0.083	
100-42-5	Styrene	ND	0.86	ND	0.20	
95-47-6	o-Xylene	ND	0.86	ND	0.20	
111-84-2	n-Nonane	ND	0.86	ND	0.16	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.86	ND	0.12	
98-82-8	Cumene	ND	0.86	ND	0.17	
80-56-8	alpha-Pinene	0.94	0.86	0.17	0.15	
103-65-1	n-Propylbenzene	ND	0.86	ND	0.17	
622-96-8	4-Ethyltoluene	ND	0.86	ND	0.17	
108-67-8	1,3,5-Trimethylbenzene	ND	0.86	ND	0.17	
95-63-6	1,2,4-Trimethylbenzene	ND	0.86	ND	0.17	
100-44-7	Benzyl Chloride	ND	0.86	ND	0.17	
541-73-1	1,3-Dichlorobenzene	ND	0.86	ND	0.14	
106-46-7	1,4-Dichlorobenzene	ND	0.86	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.86	ND	0.14	
5989-27-5	d-Limonene	ND	0.86	ND	0.15	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.86	ND	0.088	
120-82-1	1,2,4-Trichlorobenzene	ND	0.86	ND	0.12	
91-20-3	Naphthalene	ND	0.86	ND	0.16	
87-68-3	Hexachlorobutadiene	ND	0.86	ND	0.080	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 3

Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-1407SWAN
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-007

Test Code: EPA TO-15 Date Collected: 10/18/16
 Instrument ID: Tekmar AUTOCAN Agilent 5973inert 6890N MS8 Date Received: 10/27/16
 Analyst: Wida Ang Date Analyzed: 11/4/16
 Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
 Test Notes:
 Container ID: AS00774

Initial Pressure (psig): -3.08 Final Pressure (psig): 3.52

Canister Dilution Factor: 1.57

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	1.0	0.79	0.58	0.46	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.6	0.79	0.52	0.16	
74-87-3	Chloromethane	ND	0.79	ND	0.38	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.79	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.79	ND	0.31	
106-99-0	1,3-Butadiene	ND	0.79	ND	0.35	
74-83-9	Bromomethane	ND	0.79	ND	0.20	
75-00-3	Chloroethane	ND	0.79	ND	0.30	
64-17-5	Ethanol	ND	7.9	ND	4.2	
75-05-8	Acetonitrile	ND	0.79	ND	0.47	
107-02-8	Acrolein	ND	3.1	ND	1.4	
67-64-1	Acetone	10	7.9	4.2	3.3	
75-69-4	Trichlorofluoromethane	1.2	0.79	0.22	0.14	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	7.9	ND	3.2	
107-13-1	Acrylonitrile	ND	0.79	ND	0.36	
75-35-4	1,1-Dichloroethene	1.1	0.79	0.27	0.20	
75-09-2	Methylene Chloride	ND	0.79	ND	0.23	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.79	ND	0.25	
76-13-1	Trichlorotrifluoroethane	ND	0.79	ND	0.10	
75-15-0	Carbon Disulfide	ND	7.9	ND	2.5	
156-60-5	trans-1,2-Dichloroethene	ND	0.79	ND	0.20	
75-34-3	1,1-Dichloroethane	ND	0.79	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.79	ND	0.22	
108-05-4	Vinyl Acetate	ND	7.9	ND	2.2	
78-93-3	2-Butanone (MEK)	ND	7.9	ND	2.7	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Shealy Environmental Services Inc.

Client Sample ID: PSS-CS-1407SWAN

Client Project ID: Patterson Street

ALS Project ID: P1605059

ALS Sample ID: P1605059-007

Test Code: EPA TO-15

Date Collected: 10 18 16

Instrument ID: Tekmar AUTO CAN Agilent 5973inert 6890N MS8

Date Received: 10 27 16

Analyst: Wida Ang

Date Analyzed: 11 4 16

Sample Type: 6.0 L Silonite Canister

Volume(s) Analyzed: 1.00 Liter(s)

Test Notes:

Container ID: AS00774

Initial Pressure (psig): -3.08 Final Pressure (psig): 3.52

Canister Dilution Factor: 1.57

CAS #	Compound	Result µg/m³	MRL µg m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.79	ND	0.20	
141-78-6	Ethyl Acetate	2.0	1.6	0.56	0.44	
110-54-3	n-Hexane	3.1	0.79	0.88	0.22	
67-66-3	Chloroform	2.3	0.79	0.47	0.16	
109-99-9	Tetrahydrofuran (THF)	ND	0.79	ND	0.27	
107-06-2	1,2-Dichloroethane	ND	0.79	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.79	ND	0.14	
71-43-2	Benzene	1.3	0.79	0.41	0.25	
56-23-5	Carbon Tetrachloride	ND	0.79	ND	0.12	
110-82-7	Cyclohexane	ND	1.6	ND	0.46	
78-87-5	1,2-Dichloropropane	ND	0.79	ND	0.17	
75-27-4	Bromodichloromethane	ND	0.79	ND	0.12	
79-01-6	Trichloroethene	0.98	0.79	0.18	0.15	
123-91-1	1,4-Dioxane	ND	0.79	ND	0.22	
80-62-6	Methyl Methacrylate	ND	1.6	ND	0.38	
142-82-5	n-Heptane	0.97	0.79	0.24	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	0.79	ND	0.17	
108-10-1	4-Methyl-2-pentanone	ND	0.79	ND	0.19	
10061-02-6	trans-1,3-Dichloropropene	ND	0.79	ND	0.17	
79-00-5	1,1,2-Trichloroethane	ND	0.79	ND	0.14	
108-88-3	Toluene	4.2	0.79	1.1	0.21	
591-78-6	2-Hexanone	ND	0.79	ND	0.19	
124-48-1	Dibromochloromethane	ND	0.79	ND	0.092	
106-93-4	1,2-Dibromoethane	ND	0.79	ND	0.10	
123-86-4	n-Butyl Acetate	ND	0.79	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 3 of 3

Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-1407SWAN
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-007

Test Code: EPA TO-15 Date Collected: 10/18/16
 Instrument ID: Tekmar AUTOCAN Agilent 5973inert 6890N MS8 Date Received: 10/27/16
 Analyst: Wida Ang Date Analyzed: 11/4/16
 Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
 Test Notes:
 Container ID: AS000774

Initial Pressure (psig): -3.08 Final Pressure (psig): 3.52

Canister Dilution Factor: 1.57

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.79	ND	0.17	
127-18-4	Tetrachloroethene	2.4	0.79	0.35	0.12	
108-90-7	Chlorobenzene	ND	0.79	ND	0.17	
100-41-4	Ethylbenzene	ND	0.79	ND	0.18	
179601-23-1	m,p-Xylenes	1.7	1.6	0.40	0.36	
75-25-2	Bromoform	ND	0.79	ND	0.076	
100-42-5	Styrene	ND	0.79	ND	0.18	
95-47-6	o-Xylene	ND	0.79	ND	0.18	
111-84-2	n-Nonane	ND	0.79	ND	0.15	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.79	ND	0.11	
98-82-8	Cumene	ND	0.79	ND	0.16	
80-56-8	alpha-Pinene	4.6	0.79	0.83	0.14	
103-65-1	n-Propylbenzene	ND	0.79	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.79	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.79	ND	0.16	
95-63-6	1,2,4-Trimethylbenzene	ND	0.79	ND	0.16	
100-44-7	Benzyl Chloride	ND	0.79	ND	0.15	
541-73-1	1,3-Dichlorobenzene	ND	0.79	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.79	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.79	ND	0.13	
5989-27-5	d-Limonene	1.0	0.79	0.18	0.14	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.79	ND	0.081	
120-82-1	1,2,4-Trichlorobenzene	ND	0.79	ND	0.11	
91-20-3	Naphthalene	ND	0.79	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.79	ND	0.074	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 3

Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-1405SWAN
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-008

Test Code: EPA TO-15 Date Collected: 10/18/16
 Instrument ID: Tekmar AUTOCAN Agilent 5973inert 6890N MS8 Date Received: 10/27/16
 Analyst: Wida Ang Date Analyzed: 11/4/16
 Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
 Test Notes:
 Container ID: AS00992

Initial Pressure (psig): -3.78 Final Pressure (psig): 3.62

Canister Dilution Factor: 1.68

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	1.6	0.84	0.95	0.49	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.4	0.84	0.49	0.17	
74-87-3	Chloromethane	ND	0.84	ND	0.41	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.84	ND	0.12	
75-01-4	Vinyl Chloride	ND	0.84	ND	0.33	
106-99-0	1,3-Butadiene	ND	0.84	ND	0.38	
74-83-9	Bromomethane	ND	0.84	ND	0.22	
75-00-3	Chloroethane	ND	0.84	ND	0.32	
64-17-5	Ethanol	17	8.4	9.3	4.5	
75-05-8	Acetonitrile	ND	0.84	ND	0.50	
107-02-8	Acrolein	ND	3.4	ND	1.5	
67-64-1	Acetone	17	8.4	7.0	3.5	
75-69-4	Trichlorofluoromethane	1.2	0.84	0.21	0.15	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	8.4	ND	3.4	
107-13-1	Acrylonitrile	ND	0.84	ND	0.39	
75-35-4	1,1-Dichloroethene	0.87	0.84	0.22	0.21	
75-09-2	Methylene Chloride	ND	0.84	ND	0.24	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.84	ND	0.27	
76-13-1	Trichlorotrifluoroethane	ND	0.84	ND	0.11	
75-15-0	Carbon Disulfide	ND	8.4	ND	2.7	
156-60-5	trans-1,2-Dichloroethene	ND	0.84	ND	0.21	
75-34-3	1,1-Dichloroethane	ND	0.84	ND	0.21	
1634-04-4	Methyl tert-Butyl Ether	ND	0.84	ND	0.23	
108-05-4	Vinyl Acetate	ND	8.4	ND	2.4	
78-93-3	2-Butanone (MEK)	ND	8.4	ND	2.8	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-1405SWAN
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-008

Test Code: EPA TO-15 Date Collected: 10/18/16
 Instrument ID: Tekmar AUTOCAN Agilent 5973inert 6890N MS8 Date Received: 10/27/16
 Analyst: Wida Ang Date Analyzed: 11/4/16
 Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
 Test Notes:
 Container ID: AS00992

Initial Pressure (psig): -3.78 Final Pressure (psig): 3.62

Canister Dilution Factor: 1.68

CAS #	Compound	Result µg/m³	MRL µg m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.84	ND	0.21	
141-78-6	Ethyl Acetate	3.0	1.7	0.82	0.47	
110-54-3	n-Hexane	2.6	0.84	0.74	0.24	
67-66-3	Chloroform	ND	0.84	ND	0.17	
109-99-9	Tetrahydrofuran (THF)	ND	0.84	ND	0.28	
107-06-2	1,2-Dichloroethane	ND	0.84	ND	0.21	
71-55-6	1,1,1-Trichloroethane	ND	0.84	ND	0.15	
71-43-2	Benzene	0.95	0.84	0.30	0.26	
56-23-5	Carbon Tetrachloride	ND	0.84	ND	0.13	
110-82-7	Cyclohexane	ND	1.7	ND	0.49	
78-87-5	1,2-Dichloropropane	ND	0.84	ND	0.18	
75-27-4	Bromodichloromethane	ND	0.84	ND	0.13	
79-01-6	Trichloroethene	0.84	0.84	0.16	0.16	
123-91-1	1,4-Dioxane	ND	0.84	ND	0.23	
80-62-6	Methyl Methacrylate	ND	1.7	ND	0.41	
142-82-5	n-Heptane	0.96	0.84	0.23	0.21	
10061-01-5	cis-1,3-Dichloropropene	ND	0.84	ND	0.19	
108-10-1	4-Methyl-2-pentanone	ND	0.84	ND	0.21	
10061-02-6	trans-1,3-Dichloropropene	ND	0.84	ND	0.19	
79-00-5	1,1,2-Trichloroethane	ND	0.84	ND	0.15	
108-88-3	Toluene	3.8	0.84	1.0	0.22	
591-78-6	2-Hexanone	ND	0.84	ND	0.21	
124-48-1	Dibromochloromethane	ND	0.84	ND	0.099	
106-93-4	1,2-Dibromoethane	ND	0.84	ND	0.11	
123-86-4	n-Butyl Acetate	ND	0.84	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 3 of 3

Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-1405SWAN
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-008

Test Code: EPA TO-15 Date Collected: 10/18/16
 Instrument ID: Tekmar AUTOCAN Agilent 5973inert 6890N MS8 Date Received: 10/27/16
 Analyst: Wida Ang Date Analyzed: 11/4/16
 Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
 Test Notes:
 Container ID: AS00992

Initial Pressure (psig): -3.78 Final Pressure (psig): 3.62

Canister Dilution Factor: 1.68

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.84	ND	0.18	
127-18-4	Tetrachloroethene	2.5	0.84	0.37	0.12	
108-90-7	Chlorobenzene	ND	0.84	ND	0.18	
100-41-4	Ethylbenzene	ND	0.84	ND	0.19	
179601-23-1	m,p-Xylenes	2.0	1.7	0.47	0.39	
75-25-2	Bromoform	ND	0.84	ND	0.081	
100-42-5	Styrene	ND	0.84	ND	0.20	
95-47-6	o-Xylene	0.99	0.84	0.23	0.19	
111-84-2	n-Nonane	ND	0.84	ND	0.16	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.84	ND	0.12	
98-82-8	Cumene	ND	0.84	ND	0.17	
80-56-8	alpha-Pinene	3.2	0.84	0.57	0.15	
103-65-1	n-Propylbenzene	ND	0.84	ND	0.17	
622-96-8	4-Ethyltoluene	ND	0.84	ND	0.17	
108-67-8	1,3,5-Trimethylbenzene	ND	0.84	ND	0.17	
95-63-6	1,2,4-Trimethylbenzene	ND	0.84	ND	0.17	
100-44-7	Benzyl Chloride	ND	0.84	ND	0.16	
541-73-1	1,3-Dichlorobenzene	ND	0.84	ND	0.14	
106-46-7	1,4-Dichlorobenzene	ND	0.84	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.84	ND	0.14	
5989-27-5	d-Limonene	ND	0.84	ND	0.15	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.84	ND	0.087	
120-82-1	1,2,4-Trichlorobenzene	ND	0.84	ND	0.11	
91-20-3	Naphthalene	ND	0.84	ND	0.16	
87-68-3	Hexachlorobutadiene	ND	0.84	ND	0.079	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-SG-2836CAM
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-009

Test Code: EPA TO-15 Date Collected: 10 19 16
 Instrument ID: Tekmar AUTOCAN Agilent 5973inert 6890N MS8 Date Received: 10 27 16
 Analyst: Wida Ang Date Analyzed: 11 4 16
 Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.040 Liter(s)
 Test Notes:
 Container ID: 1SC01258 0.015 Liter(s)

Initial Pressure (psig): -2.64 Final Pressure (psig): 5.17

Canister Dilution Factor: 1.65

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	21	ND	12	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	21	ND	4.2	
74-87-3	Chloromethane	ND	21	ND	10	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	21	ND	3.0	
75-01-4	Vinyl Chloride	ND	21	ND	8.1	
106-99-0	1,3-Butadiene	ND	21	ND	9.3	
74-83-9	Bromomethane	ND	21	ND	5.3	
75-00-3	Chloroethane	ND	21	ND	7.8	
64-17-5	Ethanol	ND	210	ND	110	
75-05-8	Acetonitrile	ND	21	ND	12	
107-02-8	Acrolein	ND	83	ND	36	
67-64-1	Acetone	ND	210	ND	87	
75-69-4	Trichlorofluoromethane	ND	21	ND	3.7	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	210	ND	84	
107-13-1	Acrylonitrile	ND	21	ND	9.5	
75-35-4	1,1-Dichloroethene	3,400	21	860	5.2	
75-09-2	Methylene Chloride	ND	21	ND	5.9	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	21	ND	6.6	
76-13-1	Trichlorotrifluoroethane	53	21	6.9	2.7	
75-15-0	Carbon Disulfide	ND	210	ND	66	
156-60-5	trans-1,2-Dichloroethene	ND	21	ND	5.2	
75-34-3	1,1-Dichloroethane	250	21	62	5.1	
1634-04-4	Methyl tert-Butyl Ether	ND	21	ND	5.7	
108-05-4	Vinyl Acetate	ND	210	ND	59	
78-93-3	2-Butanone (MEK)	ND	210	ND	70	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-SG-2836CAM
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-009

Test Code: EPA TO-15 Date Collected: 10 19 16
 Instrument ID: Tekmar AUTOCAN Agilent 5973inert 6890N MS8 Date Received: 10 27 16
 Analyst: Wida Ang Date Analyzed: 11 4 16
 Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.040 Liter(s)
 Test Notes:
 Container ID: 1SC01258 0.015 Liter(s)

Initial Pressure (psig): -2.64 Final Pressure (psig): 5.17

Canister Dilution Factor: 1.65

CAS #	Compound	Result µg/m³	MRL µg m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	21	ND	5.2	
141-78-6	Ethyl Acetate	ND	41	ND	11	
110-54-3	n-Hexane	ND	21	ND	5.9	
67-66-3	Chloroform	26	21	5.3	4.2	
109-99-9	Tetrahydrofuran (THF)	ND	21	ND	7.0	
107-06-2	1,2-Dichloroethane	ND	21	ND	5.1	
71-55-6	1,1,1-Trichloroethane	280	21	51	3.8	
71-43-2	Benzene	ND	21	ND	6.5	
56-23-5	Carbon Tetrachloride	ND	21	ND	3.3	
110-82-7	Cyclohexane	ND	41	ND	12	
78-87-5	1,2-Dichloropropane	ND	21	ND	4.5	
75-27-4	Bromodichloromethane	ND	21	ND	3.1	
79-01-6	Trichloroethene	180	21	33	3.8	
123-91-1	1,4-Dioxane	ND	21	ND	5.7	
80-62-6	Methyl Methacrylate	ND	41	ND	10	
142-82-5	n-Heptane	ND	21	ND	5.0	
10061-01-5	cis-1,3-Dichloropropene	ND	21	ND	4.5	
108-10-1	4-Methyl-2-pentanone	ND	21	ND	5.0	
10061-02-6	trans-1,3-Dichloropropene	ND	21	ND	4.5	
79-00-5	1,1,2-Trichloroethane	ND	21	ND	3.8	
108-88-3	Toluene	ND	21	ND	5.5	
591-78-6	2-Hexanone	ND	21	ND	5.0	
124-48-1	Dibromochloromethane	ND	21	ND	2.4	
106-93-4	1,2-Dibromoethane	ND	21	ND	2.7	
123-86-4	n-Butyl Acetate	ND	21	ND	4.3	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-SG-2836CAM
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-009

Test Code:	EPA TO-15	Date Collected:	10 19 16
Instrument ID:	Tekmar AUTOCAN Agilent 5973inert 6890N MS8	Date Received:	10 27 16
Analyst:	Wida Ang	Date Analyzed:	11 4 16
Sample Type:	1.0 L Summa Canister	Volume(s) Analyzed:	0.040 Liter(s) 0.015 Liter(s)
Test Notes:			
Container ID:	1SC01258		

Initial Pressure (psig): -2.64 Final Pressure (psig): 5.17

Canister Dilution Factor: 1.65

CAS #	Compound	Result µg/m³	MRL µg m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	21	ND	4.4	
127-18-4	Tetrachloroethene	3,300	21	490	3.0	
108-90-7	Chlorobenzene	ND	21	ND	4.5	
100-41-4	Ethylbenzene	26	21	6.0	4.8	
179601-23-1	m,p-Xylenes	ND	41	ND	9.5	
75-25-2	Bromoform	ND	21	ND	2.0	
100-42-5	Styrene	92	21	22	4.8	
95-47-6	o-Xylene	ND	21	ND	4.8	
111-84-2	n-Nonane	ND	21	ND	3.9	
79-34-5	1,1,2,2-Tetrachloroethane	ND	21	ND	3.0	
98-82-8	Cumene	ND	21	ND	4.2	
80-56-8	alpha-Pinene	9,300	55	1,700	9.9	D
103-65-1	n-Propylbenzene	ND	21	ND	4.2	
622-96-8	4-Ethyltoluene	ND	21	ND	4.2	
108-67-8	1,3,5-Trimethylbenzene	ND	21	ND	4.2	
95-63-6	1,2,4-Trimethylbenzene	ND	21	ND	4.2	
100-44-7	Benzyl Chloride	ND	21	ND	4.0	
541-73-1	1,3-Dichlorobenzene	ND	21	ND	3.4	
106-46-7	1,4-Dichlorobenzene	ND	21	ND	3.4	
95-50-1	1,2-Dichlorobenzene	ND	21	ND	3.4	
5989-27-5	d-Limonene	ND	21	ND	3.7	
96-12-8	1,2-Dibromo-3-chloropropane	ND	21	ND	2.1	
120-82-1	1,2,4-Trichlorobenzene	ND	21	ND	2.8	
91-20-3	Naphthalene	ND	21	ND	3.9	
87-68-3	Hexachlorobutadiene	ND	21	ND	1.9	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 3

Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-SG-2836CAM-SPLIT
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-010

Test Code:	EPA TO-15	Date Collected:	10 19 16
Instrument ID:	Tekmar AUTOCAN Agilent 5973inert 6890N MS8	Date Received:	10 27 16
Analyst:	Wida Ang	Date Analyzed:	11 4 16
Sample Type:	1.0 L Summa Canister	Volume(s) Analyzed:	0.040 Liter(s)
Test Notes:			0.015 Liter(s)
Container ID:	1SC01265		

Initial Pressure (psig): -1.67 Final Pressure (psig): 5.72

Canister Dilution Factor: 1.57

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	29	20	17	11	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	20	ND	4.0	
74-87-3	Chloromethane	ND	20	ND	9.5	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	20	ND	2.8	
75-01-4	Vinyl Chloride	ND	20	ND	7.7	
106-99-0	1,3-Butadiene	ND	20	ND	8.9	
74-83-9	Bromomethane	ND	20	ND	5.1	
75-00-3	Chloroethane	ND	20	ND	7.4	
64-17-5	Ethanol	ND	200	ND	100	
75-05-8	Acetonitrile	ND	20	ND	12	
107-02-8	Acrolein	ND	79	ND	34	
67-64-1	Acetone	ND	200	ND	83	
75-69-4	Trichlorofluoromethane	ND	20	ND	3.5	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	200	ND	80	
107-13-1	Acrylonitrile	ND	20	ND	9.0	
75-35-4	1,1-Dichloroethene	3,500	20	880	5.0	
75-09-2	Methylene Chloride	ND	20	ND	5.7	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	20	ND	6.3	
76-13-1	Trichlorotrifluoroethane	55	20	7.1	2.6	
75-15-0	Carbon Disulfide	ND	200	ND	63	
156-60-5	trans-1,2-Dichloroethene	ND	20	ND	5.0	
75-34-3	1,1-Dichloroethane	260	20	65	4.9	
1634-04-4	Methyl tert-Butyl Ether	ND	20	ND	5.4	
108-05-4	Vinyl Acetate	ND	200	ND	56	
78-93-3	2-Butanone (MEK)	ND	200	ND	67	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-SG-2836CAM-SPLIT
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-010

Test Code:	EPA TO-15	Date Collected:	10 19 16
Instrument ID:	Tekmar AUTOCAN Agilent 5973inert 6890N MS8	Date Received:	10 27 16
Analyst:	Wida Ang	Date Analyzed:	11 4 16
Sample Type:	1.0 L Summa Canister	Volume(s) Analyzed:	0.040 Liter(s)
Test Notes:			0.015 Liter(s)
Container ID:	1SC01265		

Initial Pressure (psig): -1.67 Final Pressure (psig): 5.72

Canister Dilution Factor: 1.57

CAS #	Compound	Result µg/m³	MRL µg m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	20	ND	5.0	
141-78-6	Ethyl Acetate	ND	39	ND	11	
110-54-3	n-Hexane	ND	20	ND	5.6	
67-66-3	Chloroform	27	20	5.5	4.0	
109-99-9	Tetrahydrofuran (THF)	ND	20	ND	6.7	
107-06-2	1,2-Dichloroethane	ND	20	ND	4.9	
71-55-6	1,1,1-Trichloroethane	300	20	55	3.6	
71-43-2	Benzene	ND	20	ND	6.1	
56-23-5	Carbon Tetrachloride	ND	20	ND	3.1	
110-82-7	Cyclohexane	ND	39	ND	11	
78-87-5	1,2-Dichloropropane	ND	20	ND	4.2	
75-27-4	Bromodichloromethane	ND	20	ND	2.9	
79-01-6	Trichloroethene	180	20	33	3.7	
123-91-1	1,4-Dioxane	ND	20	ND	5.4	
80-62-6	Methyl Methacrylate	ND	39	ND	9.6	
142-82-5	n-Heptane	ND	20	ND	4.8	
10061-01-5	cis-1,3-Dichloropropene	ND	20	ND	4.3	
108-10-1	4-Methyl-2-pentanone	ND	20	ND	4.8	
10061-02-6	trans-1,3-Dichloropropene	ND	20	ND	4.3	
79-00-5	1,1,2-Trichloroethane	ND	20	ND	3.6	
108-88-3	Toluene	25	20	6.7	5.2	
591-78-6	2-Hexanone	ND	20	ND	4.8	
124-48-1	Dibromochloromethane	ND	20	ND	2.3	
106-93-4	1,2-Dibromoethane	ND	20	ND	2.6	
123-86-4	n-Butyl Acetate	ND	20	ND	4.1	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-SG-2836CAM-SPLIT
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-010

Test Code:	EPA TO-15	Date Collected:	10 19 16
Instrument ID:	Tekmar AUTOCAN Agilent 5973inert 6890N MS8	Date Received:	10 27 16
Analyst:	Wida Ang	Date Analyzed:	11 4 16
Sample Type:	1.0 L Summa Canister	Volume(s) Analyzed:	0.040 Liter(s) 0.015 Liter(s)
Test Notes:			
Container ID:	1SC01265		

Initial Pressure (psig): -1.67 Final Pressure (psig): 5.72

Canister Dilution Factor: 1.57

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	20	ND	4.2	
127-18-4	Tetrachloroethene	3,500	20	510	2.9	
108-90-7	Chlorobenzene	ND	20	ND	4.3	
100-41-4	Ethylbenzene	27	20	6.3	4.5	
179601-23-1	m,p-Xylenes	ND	39	ND	9.0	
75-25-2	Bromoform	ND	20	ND	1.9	
100-42-5	Styrene	100	20	24	4.6	
95-47-6	o-Xylene	ND	20	ND	4.5	
111-84-2	n-Nonane	ND	20	ND	3.7	
79-34-5	1,1,2,2-Tetrachloroethane	ND	20	ND	2.9	
98-82-8	Cumene	ND	20	ND	4.0	
80-56-8	alpha-Pinene	10,000	52	1,800	9.4	D
103-65-1	n-Propylbenzene	ND	20	ND	4.0	
622-96-8	4-Ethyltoluene	ND	20	ND	4.0	
108-67-8	1,3,5-Trimethylbenzene	ND	20	ND	4.0	
95-63-6	1,2,4-Trimethylbenzene	ND	20	ND	4.0	
100-44-7	Benzyl Chloride	ND	20	ND	3.8	
541-73-1	1,3-Dichlorobenzene	ND	20	ND	3.3	
106-46-7	1,4-Dichlorobenzene	ND	20	ND	3.3	
95-50-1	1,2-Dichlorobenzene	ND	20	ND	3.3	
5989-27-5	d-Limonene	ND	20	ND	3.5	
96-12-8	1,2-Dibromo-3-chloropropane	ND	20	ND	2.0	
120-82-1	1,2,4-Trichlorobenzene	ND	20	ND	2.6	
91-20-3	Naphthalene	ND	20	ND	3.7	
87-68-3	Hexachlorobutadiene	ND	20	ND	1.8	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 3

Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-SG-DITCH
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-011

Test Code:	EPA TO-15	Date Collected:	10 19 16
Instrument ID:	Tekmar AUTOCAN Agilent 5973inert 6890N MS8	Date Received:	10 27 16
Analyst:	Wida Ang	Date Analyzed:	11 4 16
Sample Type:	1.0 L Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SC00970		

Initial Pressure (psig): -2.46 Final Pressure (psig): 7.28

Canister Dilution Factor: 1.80

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	2.3	ND	1.3	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	2.3	ND	0.46	
74-87-3	Chloromethane	ND	2.3	ND	1.1	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	2.3	ND	0.32	
75-01-4	Vinyl Chloride	ND	2.3	ND	0.88	
106-99-0	1,3-Butadiene	ND	2.3	ND	1.0	
74-83-9	Bromomethane	ND	2.3	ND	0.58	
75-00-3	Chloroethane	ND	2.3	ND	0.85	
64-17-5	Ethanol	ND	2.3	ND	12	
75-05-8	Acetonitrile	ND	2.3	ND	1.3	
107-02-8	Acrolein	ND	9.0	ND	3.9	
67-64-1	Acetone	35	2.3	15	9.5	
75-69-4	Trichlorofluoromethane	2.6	2.3	0.46	0.40	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	2.3	ND	9.2	
107-13-1	Acrylonitrile	ND	2.3	ND	1.0	
75-35-4	1,1-Dichloroethene	3.0	2.3	0.77	0.57	
75-09-2	Methylene Chloride	ND	2.3	ND	0.65	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	2.3	ND	0.72	
76-13-1	Trichlorotrifluoroethane	ND	2.3	ND	0.29	
75-15-0	Carbon Disulfide	ND	2.3	ND	7.2	
156-60-5	trans-1,2-Dichloroethene	ND	2.3	ND	0.57	
75-34-3	1,1-Dichloroethane	ND	2.3	ND	0.56	
1634-04-4	Methyl tert-Butyl Ether	ND	2.3	ND	0.62	
108-05-4	Vinyl Acetate	ND	2.3	ND	6.4	
78-93-3	2-Butanone (MEK)	ND	2.3	ND	7.6	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-SG-DITCH
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-011

Test Code:	EPA TO-15	Date Collected:	10 19 16
Instrument ID:	Tekmar AUTOCAN Agilent 5973inert 6890N MS8	Date Received:	10 27 16
Analyst:	Wida Ang	Date Analyzed:	11 4 16
Sample Type:	1.0 L Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SC00970		

Initial Pressure (psig): -2.46 Final Pressure (psig): 7.28

Canister Dilution Factor: 1.80

CAS #	Compound	Result µg/m³	MRL µg m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	2.3	ND	0.57	
141-78-6	Ethyl Acetate	ND	4.5	ND	1.2	
110-54-3	n-Hexane	ND	2.3	ND	0.64	
67-66-3	Chloroform	ND	2.3	ND	0.46	
109-99-9	Tetrahydrofuran (THF)	2.4	2.3	0.82	0.76	
107-06-2	1,2-Dichloroethane	ND	2.3	ND	0.56	
71-55-6	1,1,1-Trichloroethane	ND	2.3	ND	0.41	
71-43-2	Benzene	ND	2.3	ND	0.70	
56-23-5	Carbon Tetrachloride	ND	2.3	ND	0.36	
110-82-7	Cyclohexane	ND	4.5	ND	1.3	
78-87-5	1,2-Dichloropropane	ND	2.3	ND	0.49	
75-27-4	Bromodichloromethane	ND	2.3	ND	0.34	
79-01-6	Trichloroethene	15	2.3	2.8	0.42	
123-91-1	1,4-Dioxane	ND	2.3	ND	0.62	
80-62-6	Methyl Methacrylate	ND	4.5	ND	1.1	
142-82-5	n-Heptane	ND	2.3	ND	0.55	
10061-01-5	cis-1,3-Dichloropropene	ND	2.3	ND	0.50	
108-10-1	4-Methyl-2-pentanone	ND	2.3	ND	0.55	
10061-02-6	trans-1,3-Dichloropropene	ND	2.3	ND	0.50	
79-00-5	1,1,2-Trichloroethane	ND	2.3	ND	0.41	
108-88-3	Toluene	ND	2.3	ND	0.60	
591-78-6	2-Hexanone	ND	2.3	ND	0.55	
124-48-1	Dibromochloromethane	ND	2.3	ND	0.26	
106-93-4	1,2-Dibromoethane	ND	2.3	ND	0.29	
123-86-4	n-Butyl Acetate	ND	2.3	ND	0.47	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-SG-DITCH
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-011

Test Code: EPA TO-15 Date Collected: 10 19 16
 Instrument ID: Tekmar AUTOCAN Agilent 5973inert 6890N MS8 Date Received: 10 27 16
 Analyst: Wida Ang Date Analyzed: 11 4 16
 Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
 Test Notes:
 Container ID: ISC00970

Initial Pressure (psig): -2.46 Final Pressure (psig): 7.28

Canister Dilution Factor: 1.80

CAS #	Compound	Result µg/m³	MRL µg m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	2.3	ND	0.48	
127-18-4	Tetrachloroethene	150	2.3	22	0.33	
108-90-7	Chlorobenzene	ND	2.3	ND	0.49	
100-41-4	Ethylbenzene	ND	2.3	ND	0.52	
179601-23-1	m,p-Xylenes	ND	4.5	ND	1.0	
75-25-2	Bromoform	ND	2.3	ND	0.22	
100-42-5	Styrene	ND	2.3	ND	0.53	
95-47-6	o-Xylene	ND	2.3	ND	0.52	
111-84-2	n-Nonane	ND	2.3	ND	0.43	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.3	ND	0.33	
98-82-8	Cumene	ND	2.3	ND	0.46	
80-56-8	alpha-Pinene	6.0	2.3	1.1	0.40	
103-65-1	n-Propylbenzene	ND	2.3	ND	0.46	
622-96-8	4-Ethyltoluene	ND	2.3	ND	0.46	
108-67-8	1,3,5-Trimethylbenzene	ND	2.3	ND	0.46	
95-63-6	1,2,4-Trimethylbenzene	ND	2.3	ND	0.46	
100-44-7	Benzyl Chloride	ND	2.3	ND	0.43	
541-73-1	1,3-Dichlorobenzene	ND	2.3	ND	0.37	
106-46-7	1,4-Dichlorobenzene	ND	2.3	ND	0.37	
95-50-1	1,2-Dichlorobenzene	ND	2.3	ND	0.37	
5989-27-5	d-Limonene	ND	2.3	ND	0.40	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.3	ND	0.23	
120-82-1	1,2,4-Trichlorobenzene	ND	2.3	ND	0.30	
91-20-3	Naphthalene	ND	2.3	ND	0.43	
87-68-3	Hexachlorobutadiene	ND	2.3	ND	0.21	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 3

Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-SG-1407SWAN
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-012

Test Code: EPA TO-15 Date Collected: 10 19 16
 Instrument ID: Tekmar AUTOCAN Agilent 5973inert 6890N MS8 Date Received: 10 27 16
 Analyst: Wida Ang Date Analyzed: 11 4 16
 Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.025 Liter(s)
 Test Notes:
 Container ID: ISS00141

Initial Pressure (psig): -2.86 Final Pressure (psig): 6.37

Canister Dilution Factor: 1.78

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	36	ND	21	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	36	ND	7.2	
74-87-3	Chloromethane	ND	36	ND	17	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	36	ND	5.1	
75-01-4	Vinyl Chloride	ND	36	ND	14	
106-99-0	1,3-Butadiene	ND	36	ND	16	
74-83-9	Bromomethane	ND	36	ND	9.2	
75-00-3	Chloroethane	ND	36	ND	13	
64-17-5	Ethanol	ND	360	ND	190	
75-05-8	Acetonitrile	ND	36	ND	21	
107-02-8	Acrolein	ND	140	ND	62	
67-64-1	Acetone	ND	360	ND	150	
75-69-4	Trichlorofluoromethane	ND	36	ND	6.3	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	360	ND	140	
107-13-1	Acrylonitrile	ND	36	ND	16	
75-35-4	1,1-Dichloroethene	ND	36	ND	9.0	
75-09-2	Methylene Chloride	ND	36	ND	10	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	36	ND	11	
76-13-1	Trichlorotrifluoroethane	ND	36	ND	4.6	
75-15-0	Carbon Disulfide	ND	360	ND	110	
156-60-5	trans-1,2-Dichloroethene	ND	36	ND	9.0	
75-34-3	1,1-Dichloroethane	ND	36	ND	8.8	
1634-04-4	Methyl tert-Butyl Ether	ND	36	ND	9.9	
108-05-4	Vinyl Acetate	ND	360	ND	100	
78-93-3	2-Butanone (MEK)	ND	360	ND	120	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-SG-1407SWAN
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-012

Test Code: EPA TO-15 Date Collected: 10 19 16
 Instrument ID: Tekmar AUTOCAN Agilent 5973inert 6890N MS8 Date Received: 10 27 16
 Analyst: Wida Ang Date Analyzed: 11 4 16
 Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.025 Liter(s)
 Test Notes:
 Container ID: ISS00141

Initial Pressure (psig): -2.86 Final Pressure (psig): 6.37

Canister Dilution Factor: 1.78

CAS #	Compound	Result µg/m³	MRL µg m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	36	ND	9.0	
141-78-6	Ethyl Acetate	ND	71	ND	20	
110-54-3	n-Hexane	ND	36	ND	10	
67-66-3	Chloroform	ND	36	ND	7.3	
109-99-9	Tetrahydrofuran (THF)	ND	36	ND	12	
107-06-2	1,2-Dichloroethane	ND	36	ND	8.8	
71-55-6	1,1,1-Trichloroethane	ND	36	ND	6.5	
71-43-2	Benzene	ND	36	ND	11	
56-23-5	Carbon Tetrachloride	ND	36	ND	5.7	
110-82-7	Cyclohexane	ND	71	ND	21	
78-87-5	1,2-Dichloropropane	ND	36	ND	7.7	
75-27-4	Bromodichloromethane	ND	36	ND	5.3	
79-01-6	Trichloroethene	ND	36	ND	6.6	
123-91-1	1,4-Dioxane	ND	36	ND	9.9	
80-62-6	Methyl Methacrylate	ND	71	ND	17	
142-82-5	n-Heptane	ND	36	ND	8.7	
10061-01-5	cis-1,3-Dichloropropene	ND	36	ND	7.8	
108-10-1	4-Methyl-2-pentanone	ND	36	ND	8.7	
10061-02-6	trans-1,3-Dichloropropene	ND	36	ND	7.8	
79-00-5	1,1,2-Trichloroethane	ND	36	ND	6.5	
108-88-3	Toluene	ND	36	ND	9.5	
591-78-6	2-Hexanone	ND	36	ND	8.7	
124-48-1	Dibromochloromethane	ND	36	ND	4.2	
106-93-4	1,2-Dibromoethane	ND	36	ND	4.6	
123-86-4	n-Butyl Acetate	ND	36	ND	7.5	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-SG-1407SWAN
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-012

Test Code: EPA TO-15 Date Collected: 10 19 16
 Instrument ID: Tekmar AUTOCAN Agilent 5973inert 6890N MS8 Date Received: 10 27 16
 Analyst: Wida Ang Date Analyzed: 11 4 16
 Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.025 Liter(s)
 Test Notes:
 Container ID: ISS00141

Initial Pressure (psig): -2.86 Final Pressure (psig): 6.37

Canister Dilution Factor: 1.78

CAS #	Compound	Result µg/m³	MRL µg m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	36	ND	7.6	
127-18-4	Tetrachloroethene	360	36	53	5.3	
108-90-7	Chlorobenzene	ND	36	ND	7.7	
100-41-4	Ethylbenzene	ND	36	ND	8.2	
179601-23-1	m,p-Xylenes	ND	71	ND	16	
75-25-2	Bromoform	ND	36	ND	3.4	
100-42-5	Styrene	ND	36	ND	8.4	
95-47-6	o-Xylene	ND	36	ND	8.2	
111-84-2	n-Nonane	ND	36	ND	6.8	
79-34-5	1,1,2,2-Tetrachloroethane	ND	36	ND	5.2	
98-82-8	Cumene	ND	36	ND	7.2	
80-56-8	alpha-Pinene	5,000	36	910	6.4	
103-65-1	n-Propylbenzene	ND	36	ND	7.2	
622-96-8	4-Ethyltoluene	ND	36	ND	7.2	
108-67-8	1,3,5-Trimethylbenzene	ND	36	ND	7.2	
95-63-6	1,2,4-Trimethylbenzene	ND	36	ND	7.2	
100-44-7	Benzyl Chloride	ND	36	ND	6.9	
541-73-1	1,3-Dichlorobenzene	ND	36	ND	5.9	
106-46-7	1,4-Dichlorobenzene	ND	36	ND	5.9	
95-50-1	1,2-Dichlorobenzene	ND	36	ND	5.9	
5989-27-5	d-Limonene	1,100	36	190	6.4	
96-12-8	1,2-Dibromo-3-chloropropane	ND	36	ND	3.7	
120-82-1	1,2,4-Trichlorobenzene	ND	36	ND	4.8	
91-20-3	Naphthalene	ND	36	ND	6.8	
87-68-3	Hexachlorobutadiene	ND	36	ND	3.3	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-2836CAM-FENCE2
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-013

Test Code: EPA TO-15 Date Collected: 10 20 16
 Instrument ID: Tekmar AUTOCAN Agilent 5973inert 6890N MS8 Date Received: 10 27 16
 Analyst: Wida Ang Date Analyzed: 11 4 16
 Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
 Test Notes:
 Container ID: AC01795

Initial Pressure (psig): -2.14 Final Pressure (psig): 3.52

Canister Dilution Factor: 1.45

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	0.74	0.73	0.43	0.42	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.5	0.73	0.50	0.15	
74-87-3	Chloromethane	ND	0.73	ND	0.35	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.73	ND	0.10	
75-01-4	Vinyl Chloride	ND	0.73	ND	0.28	
106-99-0	1,3-Butadiene	ND	0.73	ND	0.33	
74-83-9	Bromomethane	ND	0.73	ND	0.19	
75-00-3	Chloroethane	ND	0.73	ND	0.27	
64-17-5	Ethanol	8.5	7.3	4.5	3.8	
75-05-8	Acetonitrile	ND	0.73	ND	0.43	
107-02-8	Acrolein	ND	2.9	ND	1.3	
67-64-1	Acetone	9.4	7.3	4.0	3.1	
75-69-4	Trichlorofluoromethane	1.3	0.73	0.23	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	7.3	ND	3.0	
107-13-1	Acrylonitrile	ND	0.73	ND	0.33	
75-35-4	1,1-Dichloroethene	ND	0.73	ND	0.18	
75-09-2	Methylene Chloride	ND	0.73	ND	0.21	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.73	ND	0.23	
76-13-1	Trichlorotrifluoroethane	ND	0.73	ND	0.095	
75-15-0	Carbon Disulfide	ND	7.3	ND	2.3	
156-60-5	trans-1,2-Dichloroethene	ND	0.73	ND	0.18	
75-34-3	1,1-Dichloroethane	ND	0.73	ND	0.18	
1634-04-4	Methyl tert-Butyl Ether	ND	0.73	ND	0.20	
108-05-4	Vinyl Acetate	ND	7.3	ND	2.1	
78-93-3	2-Butanone (MEK)	ND	7.3	ND	2.5	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Shealy Environmental Services Inc.

Client Sample ID: PSS-CS-2836CAM-FENCE2

Client Project ID: Patterson Street

ALS Project ID: P1605059

ALS Sample ID: P1605059-013

Test Code: EPA TO-15

Date Collected: 10 20 16

Instrument ID: Tekmar AUTOCAN Agilent 5973inert 6890N MS8

Date Received: 10 27 16

Analyst: Wida Ang

Date Analyzed: 11 4 16

Sample Type: 6.0 L Summa Canister

Volume(s) Analyzed: 1.00 Liter(s)

Test Notes:

Container ID: AC01795

Initial Pressure (psig): -2.14 Final Pressure (psig): 3.52

Canister Dilution Factor: 1.45

CAS #	Compound	Result µg/m³	MRL µg m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.73	ND	0.18	
141-78-6	Ethyl Acetate	1.7	1.5	0.48	0.40	
110-54-3	n-Hexane	1.7	0.73	0.49	0.21	
67-66-3	Chloroform	ND	0.73	ND	0.15	
109-99-9	Tetrahydrofuran (THF)	ND	0.73	ND	0.25	
107-06-2	1,2-Dichloroethane	ND	0.73	ND	0.18	
71-55-6	1,1,1-Trichloroethane	ND	0.73	ND	0.13	
71-43-2	Benzene	0.98	0.73	0.31	0.23	
56-23-5	Carbon Tetrachloride	ND	0.73	ND	0.12	
110-82-7	Cyclohexane	ND	1.5	ND	0.42	
78-87-5	1,2-Dichloropropane	ND	0.73	ND	0.16	
75-27-4	Bromodichloromethane	ND	0.73	ND	0.11	
79-01-6	Trichloroethene	0.73	0.73	0.14	0.13	
123-91-1	1,4-Dioxane	ND	0.73	ND	0.20	
80-62-6	Methyl Methacrylate	ND	1.5	ND	0.35	
142-82-5	n-Heptane	ND	0.73	ND	0.18	
10061-01-5	cis-1,3-Dichloropropene	ND	0.73	ND	0.16	
108-10-1	4-Methyl-2-pentanone	ND	0.73	ND	0.18	
10061-02-6	trans-1,3-Dichloropropene	ND	0.73	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.73	ND	0.13	
108-88-3	Toluene	3.7	0.73	0.99	0.19	
591-78-6	2-Hexanone	ND	0.73	ND	0.18	
124-48-1	Dibromochloromethane	ND	0.73	ND	0.085	
106-93-4	1,2-Dibromoethane	ND	0.73	ND	0.094	
123-86-4	n-Butyl Acetate	ND	0.73	ND	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-2836CAM-FENCE2
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-013

Test Code: EPA TO-15 Date Collected: 10 20 16
 Instrument ID: Tekmar AUTOCAN Agilent 5973inert 6890N MS8 Date Received: 10 27 16
 Analyst: Wida Ang Date Analyzed: 11 4 16
 Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
 Test Notes:
 Container ID: AC01795

Initial Pressure (psig): -2.14 Final Pressure (psig): 3.52

Canister Dilution Factor: 1.45

CAS #	Compound	Result µg/m³	MRL µg m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.73	ND	0.16	
127-18-4	Tetrachloroethene	1.0	0.73	0.15	0.11	
108-90-7	Chlorobenzene	ND	0.73	ND	0.16	
100-41-4	Ethylbenzene	0.82	0.73	0.19	0.17	
179601-23-1	m,p-Xylenes	2.7	1.5	0.62	0.33	
75-25-2	Bromoform	ND	0.73	ND	0.070	
100-42-5	Styrene	ND	0.73	ND	0.17	
95-47-6	o-Xylene	0.95	0.73	0.22	0.17	
111-84-2	n-Nonane	ND	0.73	ND	0.14	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.73	ND	0.11	
98-82-8	Cumene	ND	0.73	ND	0.15	
80-56-8	alpha-Pinene	0.90	0.73	0.16	0.13	
103-65-1	n-Propylbenzene	ND	0.73	ND	0.15	
622-96-8	4-Ethyltoluene	ND	0.73	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.73	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.73	ND	0.15	
100-44-7	Benzyl Chloride	ND	0.73	ND	0.14	
541-73-1	1,3-Dichlorobenzene	ND	0.73	ND	0.12	
106-46-7	1,4-Dichlorobenzene	ND	0.73	ND	0.12	
95-50-1	1,2-Dichlorobenzene	ND	0.73	ND	0.12	
5989-27-5	d-Limonene	ND	0.73	ND	0.13	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.73	ND	0.075	
120-82-1	1,2,4-Trichlorobenzene	ND	0.73	ND	0.098	
91-20-3	Naphthalene	ND	0.73	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.73	ND	0.068	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-28434CAM-REPEAT
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-014

Test Code: EPA TO-15 Date Collected: 10 20 16
 Instrument ID: Tekmar AUTOCAN Agilent 5973inert 6890N MS8 Date Received: 10 27 16
 Analyst: Wida Ang Date Analyzed: 11 4 16
 Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
 Test Notes:
 Container ID: AS00883

Initial Pressure (psig): -3.65 Final Pressure (psig): 3.72

Canister Dilution Factor: 1.67

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.84	ND	0.49	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.6	0.84	0.52	0.17	
74-87-3	Chloromethane	ND	0.84	ND	0.40	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.84	ND	0.12	
75-01-4	Vinyl Chloride	ND	0.84	ND	0.33	
106-99-0	1,3-Butadiene	ND	0.84	ND	0.38	
74-83-9	Bromomethane	ND	0.84	ND	0.22	
75-00-3	Chloroethane	ND	0.84	ND	0.32	
64-17-5	Ethanol	ND	8.4	ND	4.4	
75-05-8	Acetonitrile	ND	0.84	ND	0.50	
107-02-8	Acrolein	ND	3.3	ND	1.5	
67-64-1	Acetone	ND	8.4	ND	3.5	
75-69-4	Trichlorofluoromethane	1.3	0.84	0.23	0.15	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	8.4	ND	3.4	
107-13-1	Acrylonitrile	ND	0.84	ND	0.38	
75-35-4	1,1-Dichloroethene	1.7	0.84	0.43	0.21	
75-09-2	Methylene Chloride	ND	0.84	ND	0.24	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.84	ND	0.27	
76-13-1	Trichlorotrifluoroethane	ND	0.84	ND	0.11	
75-15-0	Carbon Disulfide	ND	8.4	ND	2.7	
156-60-5	trans-1,2-Dichloroethene	ND	0.84	ND	0.21	
75-34-3	1,1-Dichloroethane	ND	0.84	ND	0.21	
1634-04-4	Methyl tert-Butyl Ether	ND	0.84	ND	0.23	
108-05-4	Vinyl Acetate	ND	8.4	ND	2.4	
78-93-3	2-Butanone (MEK)	ND	8.4	ND	2.8	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 3

Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-28434CAM-REPEAT
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-014

Test Code: EPA TO-15 Date Collected: 10 20 16
 Instrument ID: Tekmar AUTOCAN Agilent 5973inert 6890N MS8 Date Received: 10 27 16
 Analyst: Wida Ang Date Analyzed: 11 4 16
 Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
 Test Notes:
 Container ID: AS00883

Initial Pressure (psig): -3.65 Final Pressure (psig): 3.72

Canister Dilution Factor: 1.67

CAS #	Compound	Result µg/m³	MRL µg m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.84	ND	0.21	
141-78-6	Ethyl Acetate	ND	1.7	ND	0.46	
110-54-3	n-Hexane	3.5	0.84	0.98	0.24	
67-66-3	Chloroform	ND	0.84	ND	0.17	
109-99-9	Tetrahydrofuran (THF)	ND	0.84	ND	0.28	
107-06-2	1,2-Dichloroethane	ND	0.84	ND	0.21	
71-55-6	1,1,1-Trichloroethane	ND	0.84	ND	0.15	
71-43-2	Benzene	1.4	0.84	0.45	0.26	
56-23-5	Carbon Tetrachloride	ND	0.84	ND	0.13	
110-82-7	Cyclohexane	ND	1.7	ND	0.49	
78-87-5	1,2-Dichloropropane	ND	0.84	ND	0.18	
75-27-4	Bromodichloromethane	ND	0.84	ND	0.12	
79-01-6	Trichloroethene	1.5	0.84	0.29	0.16	
123-91-1	1,4-Dioxane	ND	0.84	ND	0.23	
80-62-6	Methyl Methacrylate	ND	1.7	ND	0.41	
142-82-5	n-Heptane	ND	0.84	ND	0.20	
10061-01-5	cis-1,3-Dichloropropene	ND	0.84	ND	0.18	
108-10-1	4-Methyl-2-pentanone	ND	0.84	ND	0.20	
10061-02-6	trans-1,3-Dichloropropene	ND	0.84	ND	0.18	
79-00-5	1,1,2-Trichloroethane	ND	0.84	ND	0.15	
108-88-3	Toluene	6.5	0.84	1.7	0.22	
591-78-6	2-Hexanone	ND	0.84	ND	0.20	
124-48-1	Dibromochloromethane	ND	0.84	ND	0.098	
106-93-4	1,2-Dibromoethane	ND	0.84	ND	0.11	
123-86-4	n-Butyl Acetate	ND	0.84	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 3 of 3

Client: Shealy Environmental Services Inc.
Client Sample ID: PSS-CS-28434CAM-REPEAT
Client Project ID: Patterson Street

ALS Project ID: P1605059
 ALS Sample ID: P1605059-014

Test Code: EPA TO-15 Date Collected: 10 20 16
 Instrument ID: Tekmar AUTOCAN Agilent 5973inert 6890N MS8 Date Received: 10 27 16
 Analyst: Wida Ang Date Analyzed: 11 4 16
 Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
 Test Notes:
 Container ID: AS00883

Initial Pressure (psig): -3.65 Final Pressure (psig): 3.72

Canister Dilution Factor: 1.67

CAS #	Compound	Result µg/m³	MRL µg m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.84	ND	0.18	
127-18-4	Tetrachloroethene	2.2	0.84	0.32	0.12	
108-90-7	Chlorobenzene	ND	0.84	ND	0.18	
100-41-4	Ethylbenzene	1.3	0.84	0.29	0.19	
179601-23-1	m,p-Xylenes	4.2	1.7	0.97	0.38	
75-25-2	Bromoform	ND	0.84	ND	0.081	
100-42-5	Styrene	ND	0.84	ND	0.20	
95-47-6	o-Xylene	1.6	0.84	0.37	0.19	
111-84-2	n-Nonane	ND	0.84	ND	0.16	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.84	ND	0.12	
98-82-8	Cumene	ND	0.84	ND	0.17	
80-56-8	alpha-Pinene	ND	0.84	ND	0.15	
103-65-1	n-Propylbenzene	ND	0.84	ND	0.17	
622-96-8	4-Ethyltoluene	ND	0.84	ND	0.17	
108-67-8	1,3,5-Trimethylbenzene	ND	0.84	ND	0.17	
95-63-6	1,2,4-Trimethylbenzene	ND	0.84	ND	0.17	
100-44-7	Benzyl Chloride	ND	0.84	ND	0.16	
541-73-1	1,3-Dichlorobenzene	ND	0.84	ND	0.14	
106-46-7	1,4-Dichlorobenzene	ND	0.84	ND	0.14	
95-50-1	1,2-Dichlorobenzene	ND	0.84	ND	0.14	
5989-27-5	d-Limonene	ND	0.84	ND	0.15	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.84	ND	0.086	
120-82-1	1,2,4-Trichlorobenzene	ND	0.84	ND	0.11	
91-20-3	Naphthalene	ND	0.84	ND	0.16	
87-68-3	Hexachlorobutadiene	ND	0.84	ND	0.078	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 3

Client: Shealy Environmental Services Inc.

Client Sample ID: Method Blank

Client Project ID: Patterson Street

ALS Project ID: P1605059

ALS Sample ID: P161104-MB

Test Code: EPA TO-15

Date Collected: NA

Instrument ID: Tekmar AUTOCAN Agilent 5973inert 6890N MS8

Date Received: NA

Analyst: Wida Ang

Date Analyzed: 11/4/16

Sample Type: 6.0 L Silonite Canister

Volume(s) Analyzed: 1.00 Liter(s)

Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.50	ND	0.29	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.50	ND	0.10	
74-87-3	Chloromethane	ND	0.50	ND	0.24	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.50	ND	0.072	
75-01-4	Vinyl Chloride	ND	0.50	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.50	ND	0.23	
74-83-9	Bromomethane	ND	0.50	ND	0.13	
75-00-3	Chloroethane	ND	0.50	ND	0.19	
64-17-5	Ethanol	ND	5.0	ND	2.7	
75-05-8	Acetonitrile	ND	0.50	ND	0.30	
107-02-8	Acrolein	ND	2.0	ND	0.87	
67-64-1	Acetone	ND	5.0	ND	2.1	
75-69-4	Trichlorofluoromethane	ND	0.50	ND	0.089	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	5.0	ND	2.0	
107-13-1	Acrylonitrile	ND	0.50	ND	0.23	
75-35-4	1,1-Dichloroethene	ND	0.50	ND	0.13	
75-09-2	Methylene Chloride	ND	0.50	ND	0.14	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.50	ND	0.16	
76-13-1	Trichlorotrifluoroethane	ND	0.50	ND	0.065	
75-15-0	Carbon Disulfide	ND	5.0	ND	1.6	
156-60-5	trans-1,2-Dichloroethene	ND	0.50	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.50	ND	0.12	
1634-04-4	Methyl tert-Butyl Ether	ND	0.50	ND	0.14	
108-05-4	Vinyl Acetate	ND	5.0	ND	1.4	
78-93-3	2-Butanone (MEK)	ND	5.0	ND	1.7	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 3

Client: Shealy Environmental Services Inc.

Client Sample ID: Method Blank

Client Project ID: Patterson Street

ALS Project ID: P1605059

ALS Sample ID: P161104-MB

Test Code: EPA TO-15

Date Collected: NA

Instrument ID: Tekmar AUTOCAN Agilent 5973inert 6890N MS8

Date Received: NA

Analyst: Wida Ang

Date Analyzed: 11/4/16

Sample Type: 6.0 L Silonite Canister

Volume(s) Analyzed: 1.00 Liter(s)

Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.50	ND	0.13	
141-78-6	Ethyl Acetate	ND	1.0	ND	0.28	
110-54-3	n-Hexane	ND	0.50	ND	0.14	
67-66-3	Chloroform	ND	0.50	ND	0.10	
109-99-9	Tetrahydrofuran (THF)	ND	0.50	ND	0.17	
107-06-2	1,2-Dichloroethane	ND	0.50	ND	0.12	
71-55-6	1,1,1-Trichloroethane	ND	0.50	ND	0.092	
71-43-2	Benzene	ND	0.50	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.50	ND	0.080	
110-82-7	Cyclohexane	ND	1.0	ND	0.29	
78-87-5	1,2-Dichloropropane	ND	0.50	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.50	ND	0.075	
79-01-6	Trichloroethene	ND	0.50	ND	0.093	
123-91-1	1,4-Dioxane	ND	0.50	ND	0.14	
80-62-6	Methyl Methacrylate	ND	1.0	ND	0.24	
142-82-5	n-Heptane	ND	0.50	ND	0.12	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	0.50	ND	0.12	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.50	ND	0.092	
108-88-3	Toluene	ND	0.50	ND	0.13	
591-78-6	2-Hexanone	ND	0.50	ND	0.12	
124-48-1	Dibromochloromethane	ND	0.50	ND	0.059	
106-93-4	1,2-Dibromoethane	ND	0.50	ND	0.065	
123-86-4	n-Butyl Acetate	ND	0.50	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 3 of 3

Client: Shealy Environmental Services Inc.

Client Sample ID: Method Blank

Client Project ID: Patterson Street

ALS Project ID: P1605059

ALS Sample ID: P161104-MB

Test Code: EPA TO-15

Date Collected: NA

Instrument ID: Tekmar AUTOCAN Agilent 5973inert 6890N MS8

Date Received: NA

Analyst: Wida Ang

Date Analyzed: 11/4/16

Sample Type: 6.0 L Silonite Canister

Volume(s) Analyzed: 1.00 Liter(s)

Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.50	ND	0.11	
127-18-4	Tetrachloroethene	ND	0.50	ND	0.074	
108-90-7	Chlorobenzene	ND	0.50	ND	0.11	
100-41-4	Ethylbenzene	ND	0.50	ND	0.12	
179601-23-1	m,p-Xylenes	ND	1.0	ND	0.23	
75-25-2	Bromoform	ND	0.50	ND	0.048	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.50	ND	0.12	
111-84-2	n-Nonane	ND	0.50	ND	0.095	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ND	0.073	
98-82-8	Cumene	ND	0.50	ND	0.10	
80-56-8	alpha-Pinene	ND	0.50	ND	0.090	
103-65-1	n-Propylbenzene	ND	0.50	ND	0.10	
622-96-8	4-Ethyltoluene	ND	0.50	ND	0.10	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	ND	0.10	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	ND	0.10	
100-44-7	Benzyl Chloride	ND	0.50	ND	0.097	
541-73-1	1,3-Dichlorobenzene	ND	0.50	ND	0.083	
106-46-7	1,4-Dichlorobenzene	ND	0.50	ND	0.083	
95-50-1	1,2-Dichlorobenzene	ND	0.50	ND	0.083	
5989-27-5	d-Limonene	ND	0.50	ND	0.090	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	ND	0.052	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	ND	0.067	
91-20-3	Naphthalene	ND	0.50	ND	0.095	
87-68-3	Hexachlorobutadiene	ND	0.50	ND	0.047	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Page 1 of 1

Client: Shealy Environmental Services Inc.
Client Project ID: Patterson Street

ALS Project ID: P1605059

Test Code:	EPA TO-15	
Instrument ID:	Tekmar AUTOCAN Agilent 5973inert 6890N MS8	Date(s) Collected: 10 18 - 10 20 16
Analyst:	Wida Ang	Date(s) Received: 10 27 16
Sample Type:	6.0 L Silonite Canister(s)	Date(s) Analyzed: 11 4 16
Test Notes:		

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4	Toluene-d8	Bromofluorobenzene	Acceptance Limits	Data Qualifier
		Percent Recovered	Percent Recovered	Percent Recovered		
Method Blank	P161104-MB	101	102	96	70-130	
Lab Control Sample	P161104-LCS	101	100	98	70-130	
PSS-CS-2836CAM	P1605059-001	101	101	100	70-130	
PSS-CS-2836CAM-FENCE	P1605059-002	102	102	96	70-130	
PSS-CS-2834CAM	P1605059-003	102	102	96	70-130	
PSS-CS-2834CAM-DUP	P1605059-004	102	103	98	70-130	
PSS-CS-1406SWAN	P1605059-005	101	103	99	70-130	
PSS-CS-2832CAM	P1605059-006	101	103	97	70-130	
PSS-CS-1407SWAN	P1605059-007	102	101	99	70-130	
PSS-CS-1405SWAN	P1605059-008	100	102	100	70-130	
PSS-SG-2836CAM	P1605059-009	100	100	95	70-130	
PSS-SG-2836CAM-SPLIT	P1605059-010	103	103	97	70-130	
PSS-SG-DITCH	P1605059-011	101	102	95	70-130	
PSS-SG-1407SWAN	P1605059-012	100	101	98	70-130	
PSS-CS-2836CAM-FENCE2	P1605059-013	101	102	100	70-130	
PSS-CS-28434CAM-REPEAT	P1605059-014	102	100	100	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.

Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Page 1 of 3

Client: Shealy Environmental Services Inc.

Client Sample ID: Lab Control Sample

Client Project ID: Patterson Street

ALS Project ID: P1605059

ALS Sample ID: P161104-LCS

Test Code: EPA TO-15

Date Collected: NA

Instrument ID: Tekmar AUTOCAN Agilent 5973inert 6890N MS8

Date Received: NA

Analyst: Wida Ang

Date Analyzed: 11-4-16

Sample Type: 6.0 L Silonite Canister

Volume(s) Analyzed: 0.125 Liter(s)

Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
115-07-1	Propene	210	182	87	52-127	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	200	95	68-109	
74-87-3	Chloromethane	210	207	99	51-130	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	211	206	98	66-114	
75-01-4	Vinyl Chloride	210	224	107	61-125	
106-99-0	1,3-Butadiene	210	232	110	62-144	
74-83-9	Bromomethane	210	210	100	73-123	
75-00-3	Chloroethane	210	195	93	69-122	
64-17-5	Ethanol	1,060	945	89	62-124	
75-05-8	Acetonitrile	213	191	90	57-114	
107-02-8	Acrolein	212	202	95	62-116	
67-64-1	Acetone	1,060	908	86	57-117	
75-69-4	Trichlorofluoromethane	210	198	94	63-98	
67-63-0	2-Propanol (Isopropyl Alcohol)	424	437	103	66-121	
107-13-1	Acrylonitrile	213	215	101	68-123	
75-35-4	1,1-Dichloroethene	213	210	99	76-118	
75-09-2	Methylene Chloride	212	205	97	60-118	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	212	258	122	65-126	
76-13-1	Trichlorotrifluoroethane	212	203	96	73-114	
75-15-0	Carbon Disulfide	213	199	93	57-102	
156-60-5	trans-1,2-Dichloroethene	213	225	106	74-123	
75-34-3	1,1-Dichloroethane	212	202	95	69-111	
1634-04-4	Methyl tert-Butyl Ether	213	205	96	69-113	
108-05-4	Vinyl Acetate	1,060	1100	104	76-128	
78-93-3	2-Butanone (MEK)	212	230	108	63-127	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result. Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Page 2 of 3

Client: Shealy Environmental Services Inc.

Client Sample ID: Lab Control Sample

Client Project ID: Patterson Street

ALS Project ID: P1605059

ALS Sample ID: P161104-LCS

Test Code:	EPA TO-15	Date Collected:	NA
Instrument ID:	Tekmar AUTOCAN Agilent 5973inert 6890N MS8	Date Received:	NA
Analyst:	Wida Ang	Date Analyzed:	11-4-16
Sample Type:	6.0 L Silonite Canister	Volume(s) Analyzed:	0.125 Liter(s)
Test Notes:			

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	212	207	98	72-117	
141-78-6	Ethyl Acetate	426	428	100	68-127	
110-54-3	n-Hexane	213	188	88	55-116	
67-66-3	Chloroform	212	202	95	70-109	
109-99-9	Tetrahydrofuran (THF)	213	203	95	72-113	
107-06-2	1,2-Dichloroethane	212	208	98	69-113	
71-55-6	1,1,1-Trichloroethane	212	209	99	72-115	
71-43-2	Benzene	212	185	87	65-107	
56-23-5	Carbon Tetrachloride	213	214	100	71-113	
110-82-7	Cyclohexane	425	394	93	71-115	
78-87-5	1,2-Dichloropropane	212	200	94	71-115	
75-27-4	Bromodichloromethane	214	222	104	75-118	
79-01-6	Trichloroethene	212	176	83	68-114	
123-91-1	1,4-Dioxane	213	218	102	81-131	
80-62-6	Methyl Methacrylate	424	439	104	72-130	
142-82-5	n-Heptane	213	205	96	68-116	
10061-01-5	cis-1,3-Dichloropropene	210	216	103	77-126	
108-10-1	4-Methyl-2-pentanone	213	209	98	69-126	
10061-02-6	trans-1,3-Dichloropropene	213	234	110	79-125	
79-00-5	1,1,2-Trichloroethane	212	213	100	75-119	
108-88-3	Toluene	212	196	92	59-118	
591-78-6	2-Hexanone	213	221	104	69-129	
124-48-1	Dibromochloromethane	213	228	107	74-136	
106-93-4	1,2-Dibromoethane	212	223	105	73-131	
123-86-4	n-Butyl Acetate	216	222	103	69-130	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
 Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Page 3 of 3

Client: Shealy Environmental Services Inc.

Client Sample ID: Lab Control Sample

Client Project ID: Patterson Street

ALS Project ID: P1605059

ALS Sample ID: P161104-LCS

Test Code:	EPA TO-15	Date Collected:	NA
Instrument ID:	Tekmar AUTOCAN Agilent 5973inert 6890N MS8	Date Received:	NA
Analyst:	Wida Ang	Date Analyzed:	11-4-16
Sample Type:	6.0 L Silonite Canister	Volume(s) Analyzed:	0.125 Liter(s)
Test Notes:			

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
111-65-9	n-Octane	212	204	96	66-120	
127-18-4	Tetrachloroethene	213	197	92	65-130	
108-90-7	Chlorobenzene	212	197	93	68-120	
100-41-4	Ethylbenzene	212	206	97	68-122	
179601-23-1	m,p-Xylenes	424	414	98	68-123	
75-25-2	Bromoform	212	239	113	69-130	
100-42-5	Styrene	212	221	104	71-133	
95-47-6	o-Xylene	212	205	97	68-122	
111-84-2	n-Nonane	212	211	100	65-120	
79-34-5	1,1,2,2-Tetrachloroethane	212	212	100	69-130	
98-82-8	Cumene	212	205	97	70-123	
80-56-8	alpha-Pinene	213	206	97	70-128	
103-65-1	n-Propylbenzene	214	208	97	69-125	
622-96-8	4-Ethyltoluene	212	208	98	67-130	
108-67-8	1,3,5-Trimethylbenzene	212	204	96	67-124	
95-63-6	1,2,4-Trimethylbenzene	212	212	100	67-129	
100-44-7	Benzyl Chloride	212	237	112	79-138	
541-73-1	1,3-Dichlorobenzene	212	205	97	65-136	
106-46-7	1,4-Dichlorobenzene	213	203	95	66-141	
95-50-1	1,2-Dichlorobenzene	212	206	97	67-136	
5989-27-5	d-Limonene	212	212	100	71-134	
96-12-8	1,2-Dibromo-3-chloropropane	212	218	103	73-136	
120-82-1	1,2,4-Trichlorobenzene	212	210	99	64-134	
91-20-3	Naphthalene	214	210	98	62-136	
87-68-3	Hexachlorobutadiene	213	199	93	60-133	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
 Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: Shealy Environmental Services Inc.
Client Project ID: Patterson Street

ALS Project ID: P1605059

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN Agilent 5973inert 6890N MS8
Analyst: Wida Ang
Sample Type: 6.0 L Silonite Canister(s)
Test Notes:

Lab File ID: 11041603.D
Date Analyzed: 11/4/16
Time Analyzed: 04:36

	IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
24 Hour Standard	122171	8.79	567265	10.53	232446	14.56
Upper Limit	171039	9.12	794171	10.86	325424	14.89
Lower Limit	73303	8.46	340359	10.20	139468	14.23

Client Sample ID						
01	Method Blank	113614	8.78	559007	10.53	215639
02	Lab Control Sample	130760	8.80	588097	10.54	243489
03	PSS-SG-2836CAM	117482	8.78	547800	10.53	225338
04	PSS-SG-2836CAM-SPLIT	117863	8.78	556212	10.53	227411
05	PSS-SG-2836CAM-SPLIT (Dilution)	112206	8.78	523274	10.53	210757
06	PSS-SG-2836CAM (Dilution)	112851	8.78	537401	10.53	210019
07	PSS-SG-DITCH	119240	8.78	551954	10.53	227199
08	PSS-SG-1407SWAN	120607	8.78	552431	10.53	206620
09	PSS-CS-2836CAM-FENCE	122626	8.78	578266	10.53	234945
10	PSS-CS-2834CAM	121625	8.79	572678	10.53	232631
11	PSS-CS-2834CAM-DUP	109169	8.78	523629	10.53	209729
12	PSS-CS-1406SWAN	110154	8.78	514190	10.53	205375
13	PSS-CS-2832CAM	107554	8.78	514957	10.53	206636
14	PSS-CS-1407SWAN	110020	8.78	524069	10.53	213250
15	PSS-CS-1405SWAN	111377	8.78	519056	10.53	212868
16	PSS-CS-2836CAM-FENCE2	108880	8.78	512605	10.53	210113
17	PSS-CS-28434CAM-REPEAT	109111	8.78	514366	10.53	213485
18	PSS-CS-2836CAM	108186	8.78	505100	10.53	206407
19						
20						

IS1 (BCM) = Bromochloromethane

IS2 (DFB) = 1,4-Difluorobenzene

IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area

AREA LOWER LIMIT = 60% of internal standard area

RT UPPER LIMIT = 0.33 minutes of internal standard RT

RT LOWER LIMIT = 0.33 minutes of internal standard RT

Column used to flag values outside QC limits with an I.

I = Internal standard not within the specified limits.

Data File: I:\MS08\Data\2016_11\04\11041630.D
 Acq On : 4 Nov 2016 22:11
 Sample : P1605059-001 (1000mL)
 Misc : S29-10041602
 ALS Vial : 2 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 07 15:31:22 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane (IS1)	8.78	130	108186	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	10.53	114	505100	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.56	82	206407	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.47	65	136481	12.595	ng	-0.03
Spiked Amount	12.500	Range	70 - 130	Recovery	=	100.80%
57) Toluene-d8 (SS2)	12.76	98	520851	12.683	ng	-0.01
Spiked Amount	12.500	Range	70 - 130	Recovery	=	101.44%
73) Bromofluorobenzene (SS3)	16.07	174	212464	12.521	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	100.16%

Target Compounds

					Qvalue
2) Propene	3.89	42	8279	0.805	ng # 62
3) Dichlorodifluoromethan...	3.99	85	25733	1.580	ng 99
4) Chloromethane	4.21	50	1280	N.D.	
5) 1,2-Dichloro-1,1,2,2-t...	4.35	135	853	N.D.	
6) Vinyl Chloride	0.00	62	0	N.D.	
7) 1,3-Butadiene	4.66	54	669	N.D.	
8) Bromomethane	0.00	94	0	N.D.	
9) Chloroethane	0.00	64	0	N.D.	
10) Ethanol	5.35	45	24598	3.598	ng 94
11) Acetonitrile	5.58	41	3293	N.D.	
12) Acrolein	5.71	56	1375	N.D.	
13) Acetone	5.84	58	34458	4.531	ng # 1
14) Trichlorofluoromethane	6.00	101	11270	0.764	ng 100
15) 2-Propanol (Isopropanol)	6.13	45	9644	0.457	ng 90
16) Acrylonitrile	6.39	53	1823	N.D.	
17) 1,1-Dichloroethene	6.65	96	1882	N.D.	
18) 2-Methyl-2-Propanol (t...	6.76	59	1025	N.D.	
19) Methylene Chloride	6.78	84	3063	N.D.	
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D. d	
21) Trichlorotrifluoroethane	7.06	151	2871	N.D.	
22) Carbon Disulfide	7.04	76	5386	N.D.	
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.	
24) 1,1-Dichloroethane	0.00	63	0	N.D.	
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	
26) Vinyl Acetate	8.00	86	967	N.D.	
27) 2-Butanone (MEK)	8.25	72	4333	0.735	ng 92
28) cis-1,2-Dichloroethene	8.64	61	923	N.D.	
29) Diisopropyl Ether	8.85	87	437	N.D.	
30) Ethyl Acetate	8.85	61	1912	0.625	ng 89
31) n-Hexane	8.85	57	26855	1.791	ng 98
32) Chloroform	8.91	83	2753	N.D.	
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.	
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.	
36) 1,2-Dichloroethane	0.00	62	0	N.D.	
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.	
39) Isopropyl Acetate	0.00	61	0	N.D.	
40) 1-Butanol	0.00	56	0	N.D. d	
41) Benzene	10.22	78	22286	0.554	ng 100
42) Carbon Tetrachloride	10.36	117	3557	N.D.	
43) Cyclohexane	10.48	84	6187	N.D.	
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.	
45) 1,2-Dichloropropane	0.00	63	0	N.D.	
46) Bromodichloromethane	11.14	83	839	N.D.	
47) Trichloroethene	11.17	130	3781	N.D.	
48) 1,4-Dioxane	0.00	88	0	N.D.	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d	

Data File: I:\MS08\Data\2016_11\04\11041630.D
 Acq On : 4 Nov 2016 22:11
 Sample : P1605059-001 (1000mL)
 Misc : S29-10041602
 ALS Vial : 2 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 07 15:31:22 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
50) Methyl Methacrylate	11.44	100	1575	N.D.		
51) n-Heptane	11.45	71	5235	0.556	ng	97
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.86	91	73736	1.829	ng	100
59) 2-Hexanone	13.08	43	2941	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.67	43	4181	N.D.		
63) n-Octane	13.79	57	1166	N.D.		
64) Tetrachloroethene	13.94	166	4970	N.D.		
65) Chlorobenzene	14.61	112	576	N.D.		
66) Ethylbenzene	14.99	91	11050	N.D.		
67) m- & p-Xylenes	15.16	91	33263	0.973	ng	99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	15.53	104	7246	N.D.		
70) o-Xylene	15.63	91	21626	0.616	ng	99
71) n-Nonane	15.84	43	3194	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	16.20	105	1410	N.D.		
75) alpha-Pinene	16.58	93	11854	0.489	ng	92
76) n-Propylbenzene	16.70	91	2969	N.D.		
77) 3-Ethyltoluene	16.79	105	8440	N.D.		
78) 4-Ethyltoluene	16.84	105	4306	N.D.		
79) 1,3,5-Trimethylbenzene	16.91	105	6744	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.09	105	6163	N.D.		
82) 1,2,4-Trimethylbenzene	17.30	105	8651	N.D.		
83) n-Decane	17.40	57	6728	N.D.		
84) Benzyl Chloride	17.30	91	1130	N.D.		
85) 1,3-Dichlorobenzene	17.52	146	1417	N.D.		
86) 1,4-Dichlorobenzene	17.52	146	1417	N.D.		
87) sec-Butylbenzene	17.56	105	838	N.D.		
88) 4-Isopropyltoluene (p-...)	17.71	119	3421	N.D.		
89) 1,2,3-Trimethylbenzene	17.71	105	6673	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	17.85	68	3889	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	18.60	57	5349	N.D.		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	19.57	128	4391	N.D.		
96) n-Dodecane	19.58	57	2022	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	15.32	55	1594	N.D.		
99) tert-Butylbenzene	17.30	119	1624	N.D.		
100) n-Butylbenzene	18.11	91	1828	N.D.		

(#= qualifier out of range (m)= manual integration (+)= signals summed)

Data File: I:\MS08\Data\2016_11\04\11041630.D
Acq On : 4 Nov 2016 22:11
Sample : P1605059-001 (1000mL)
Misc : S29-10041602
ALS Vial : 2 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 07 15:31:22 2016

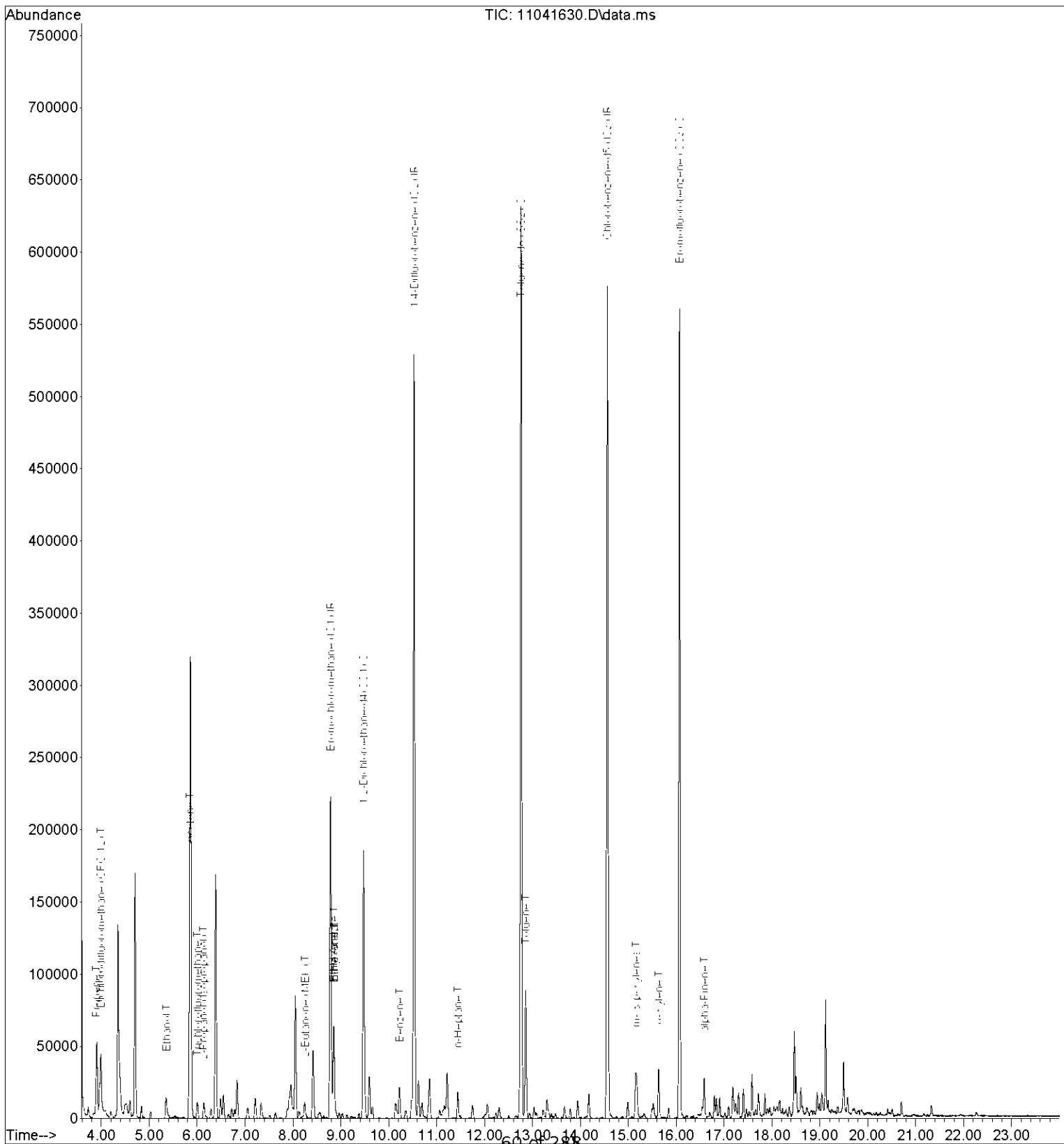
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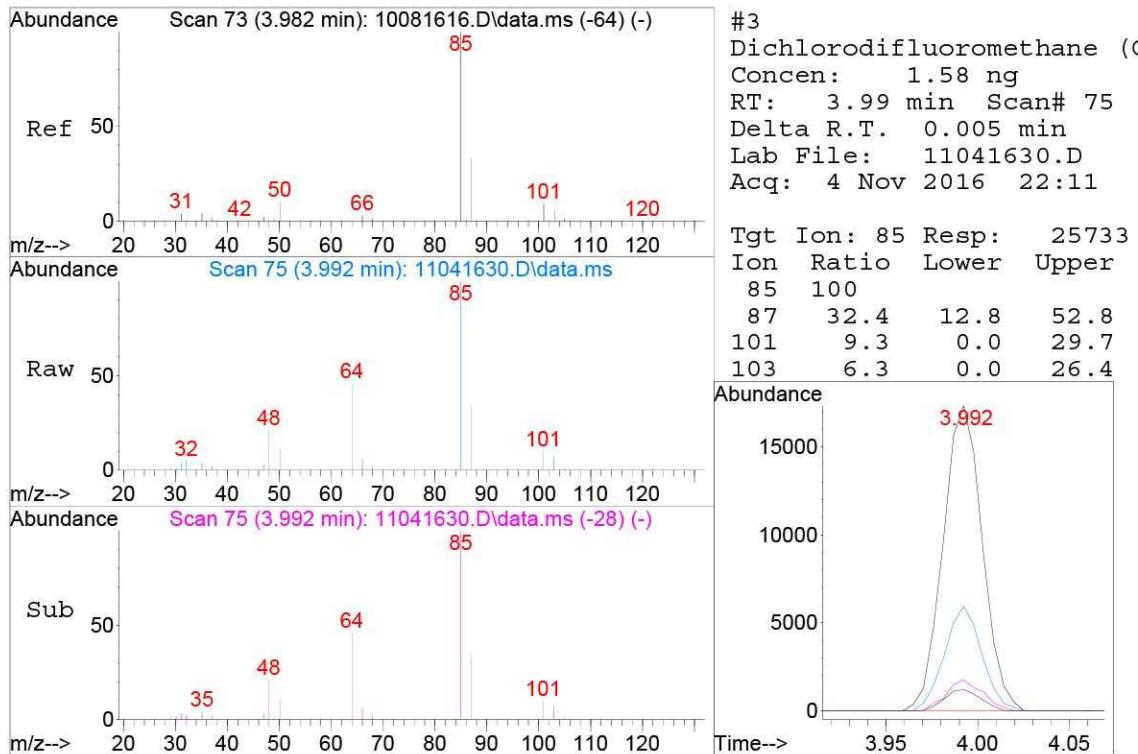
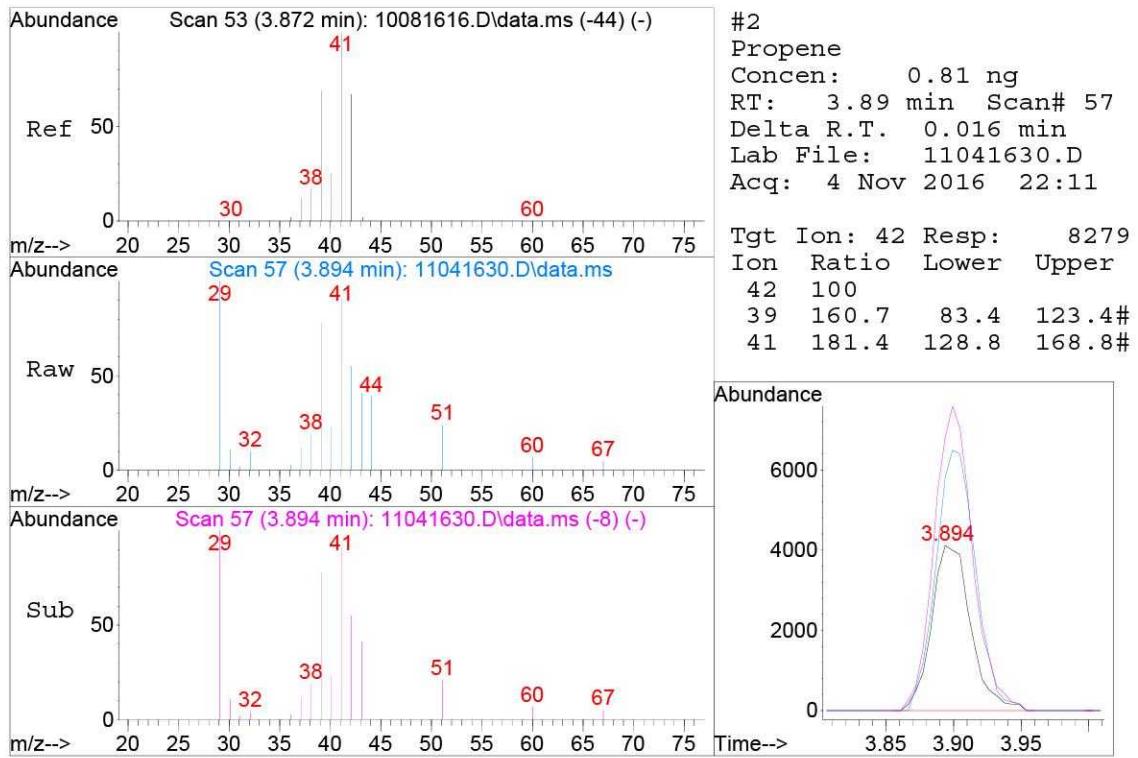
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

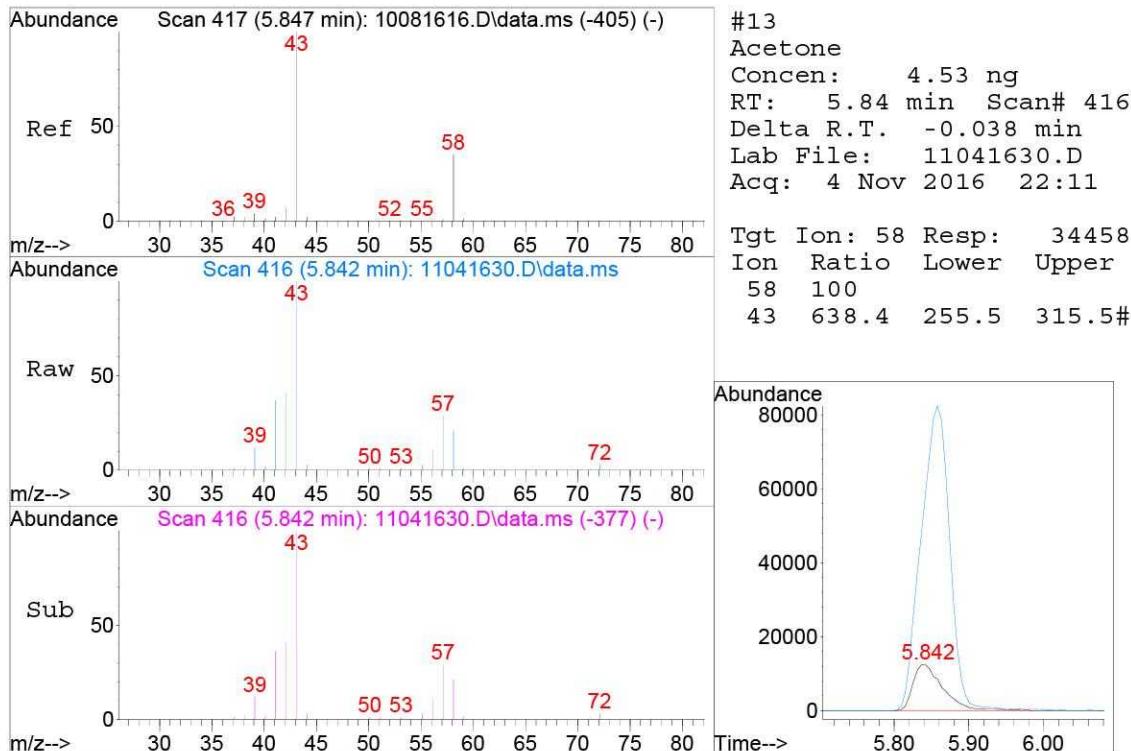
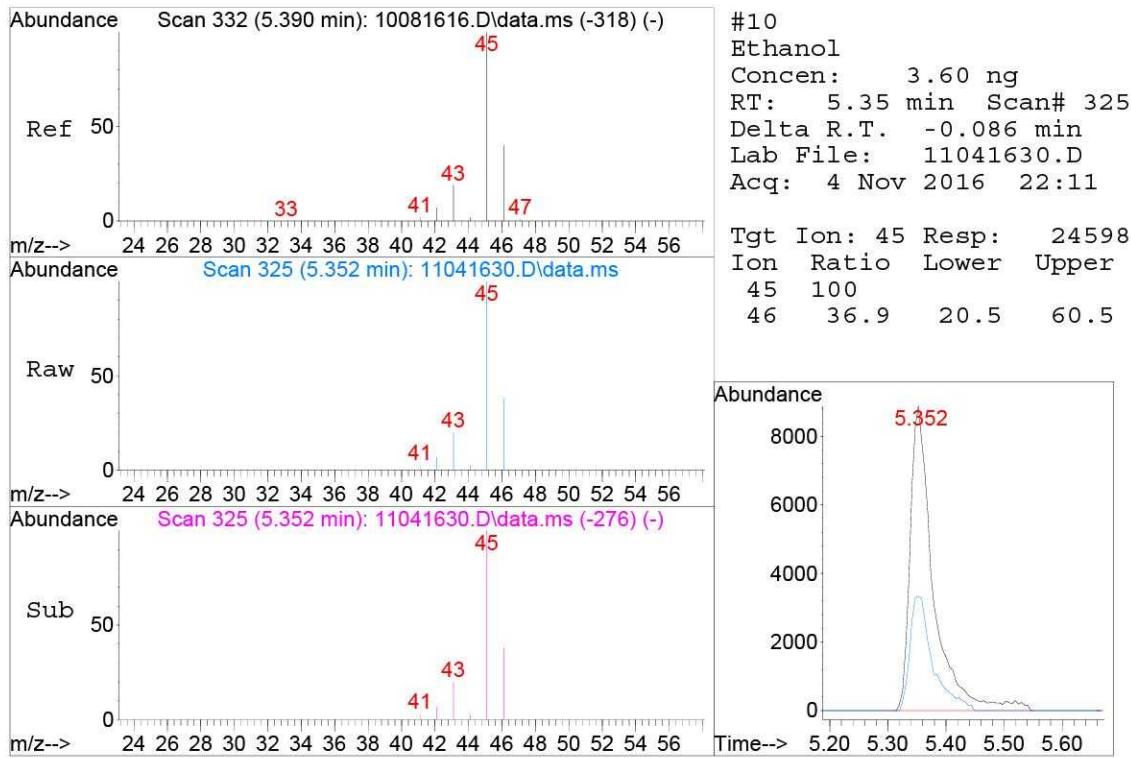
Last Update : Wed Oct 12 15:54:53 2016

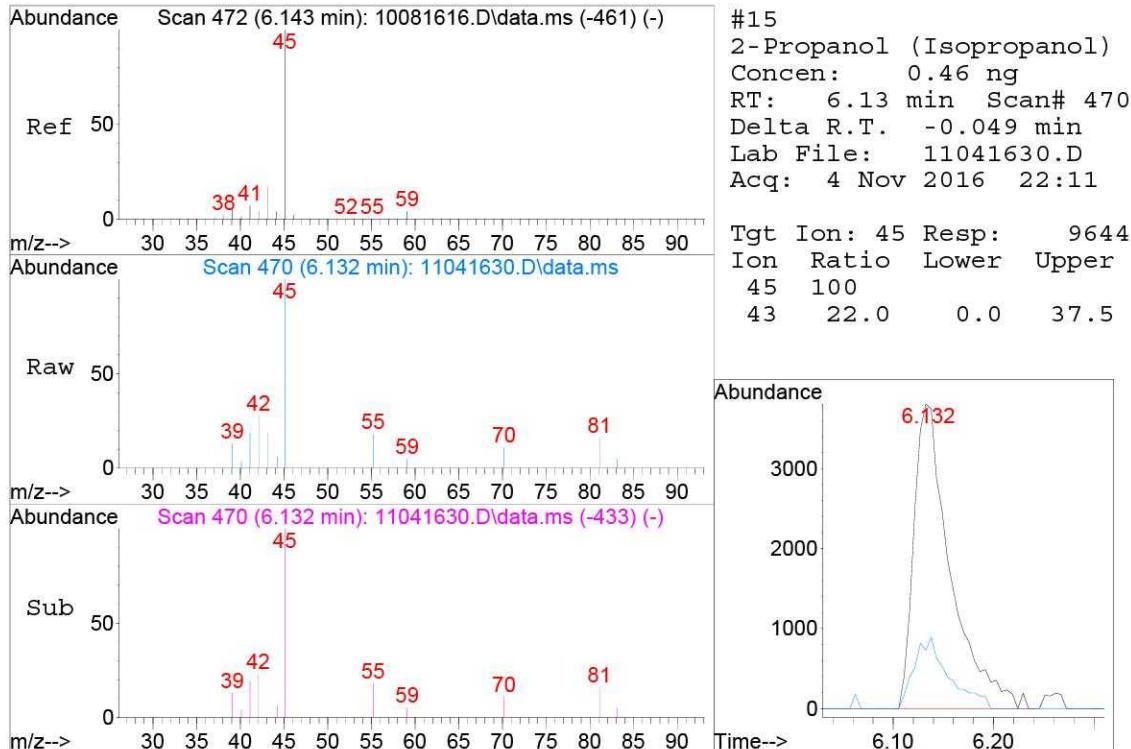
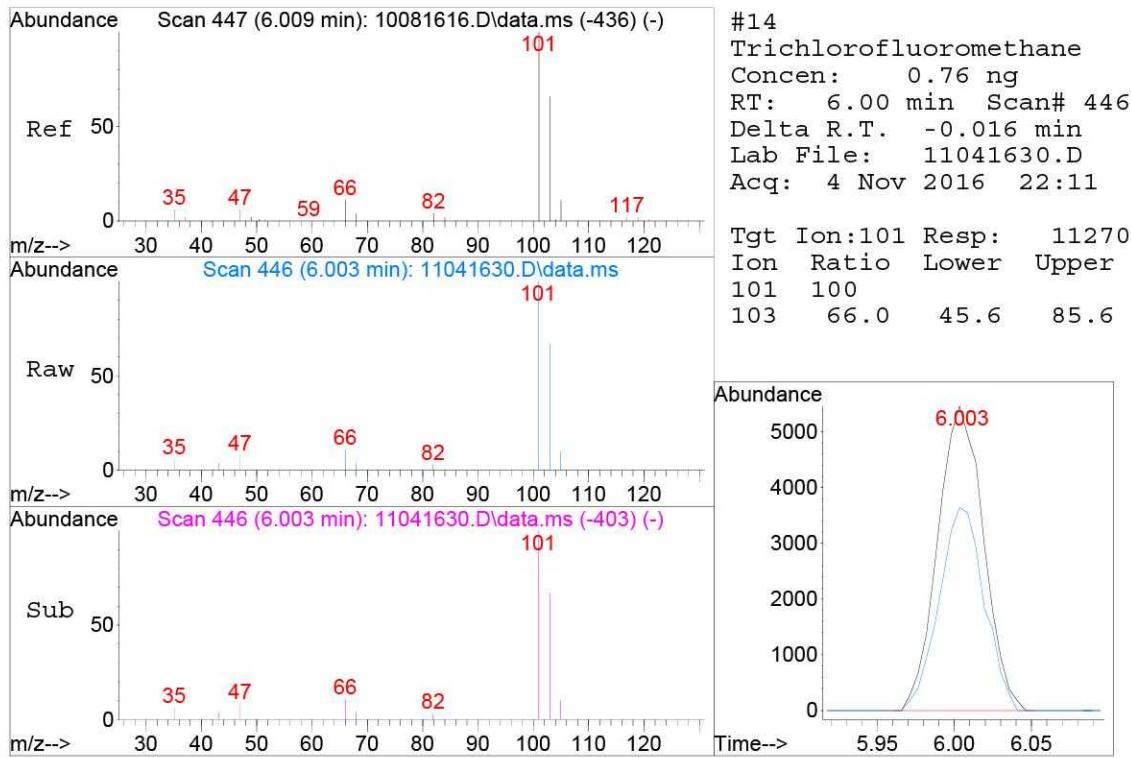
Response via : Initial Calibration

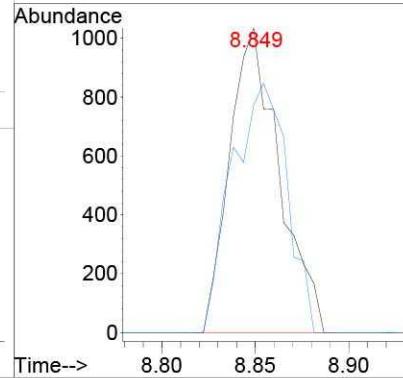
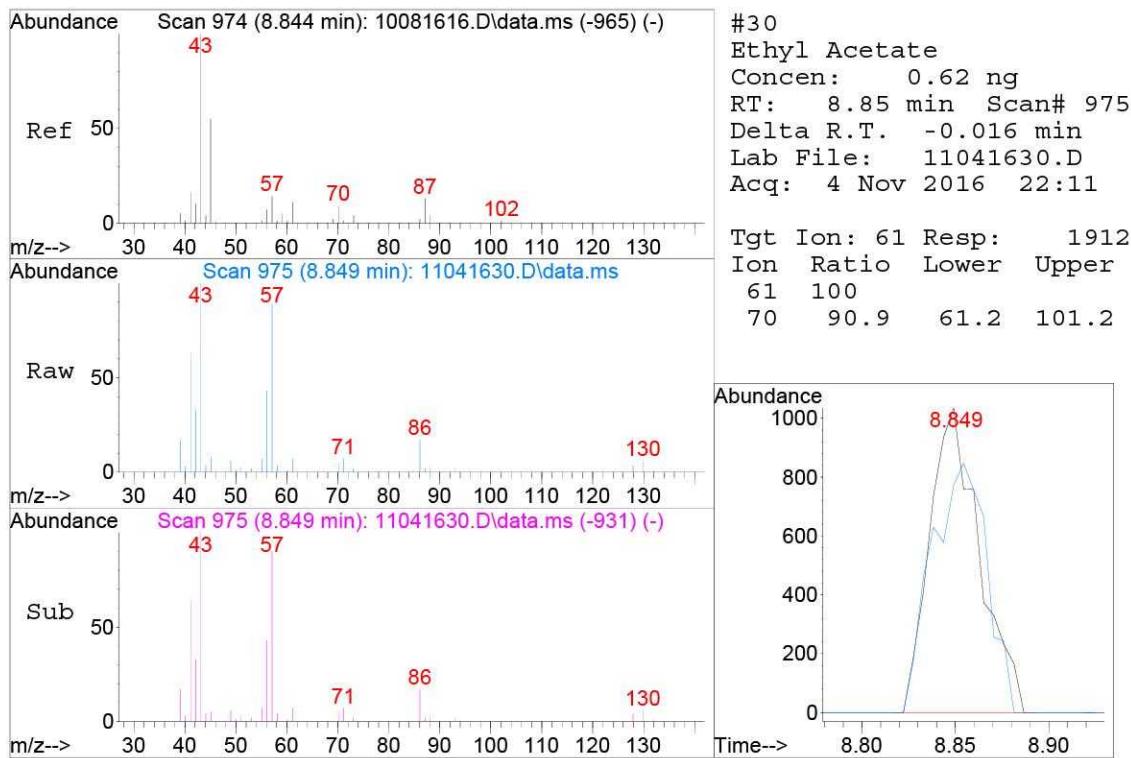
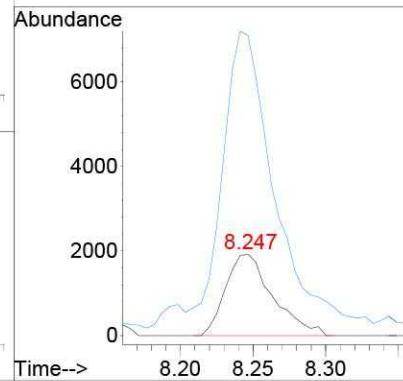
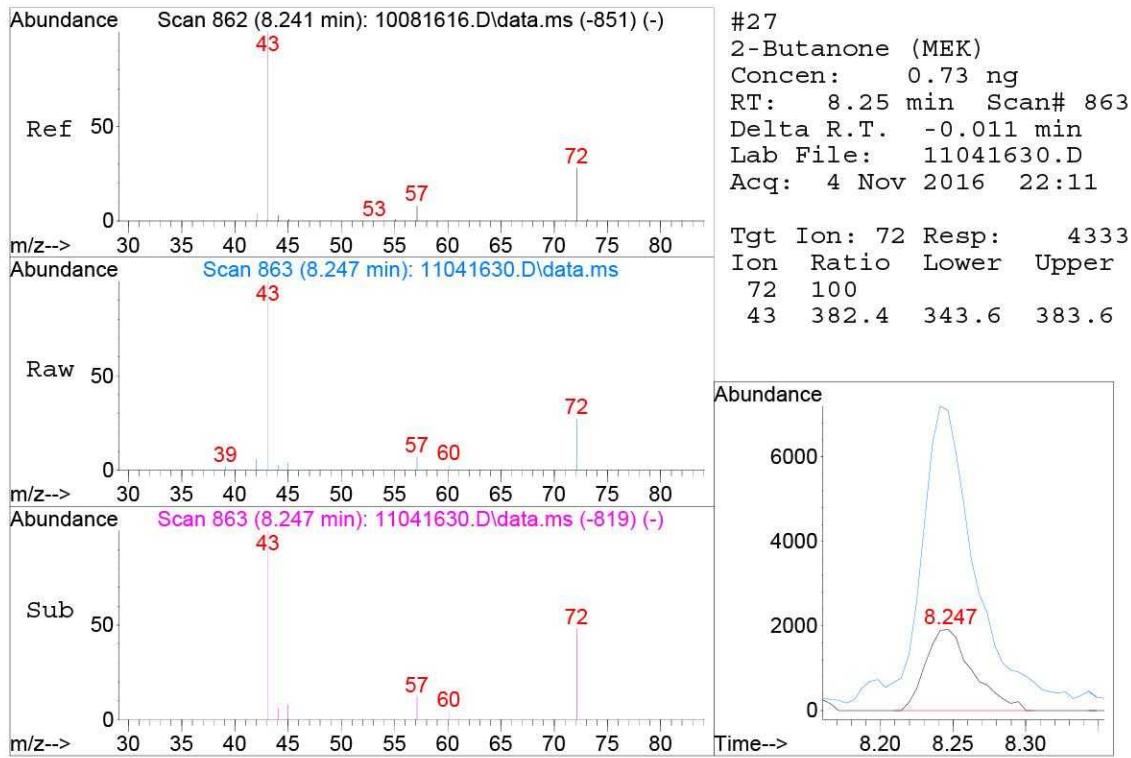
DataAcq Meth:TO15, M

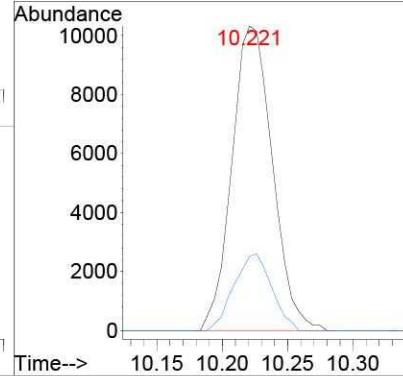
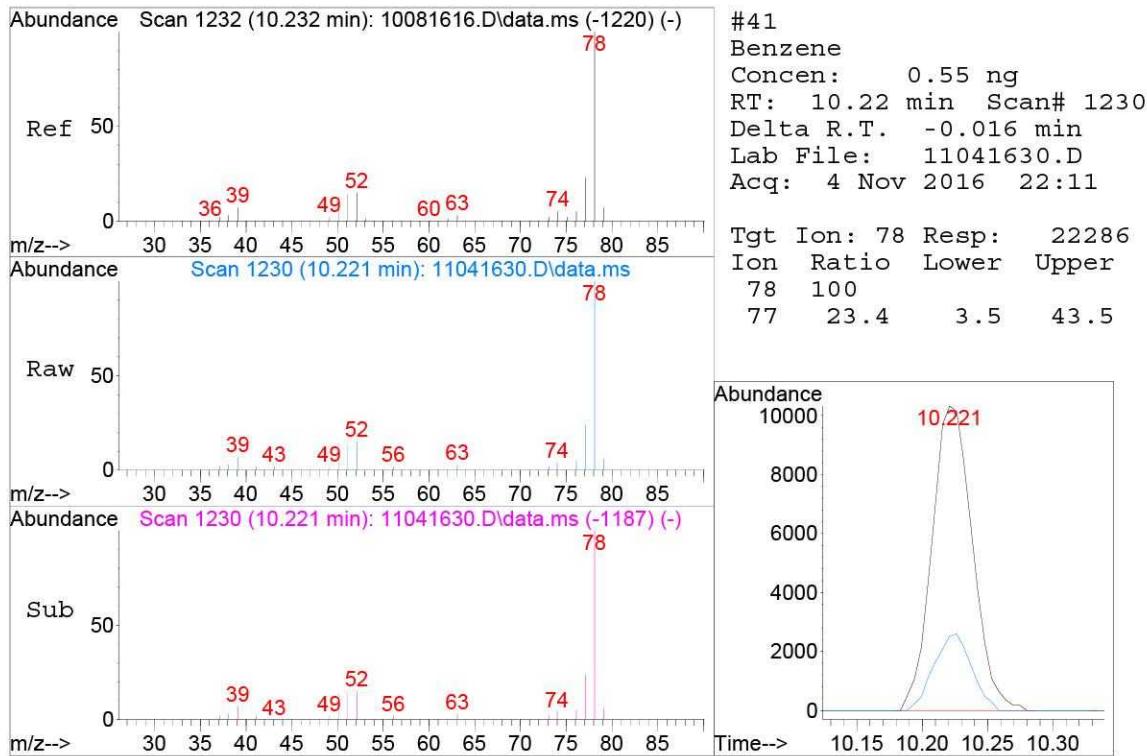
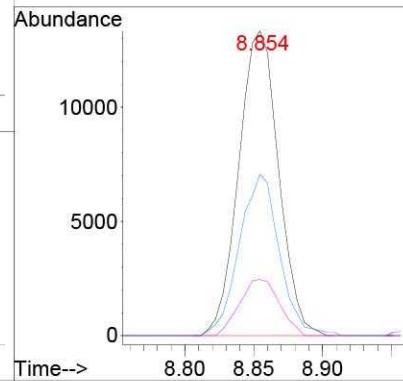
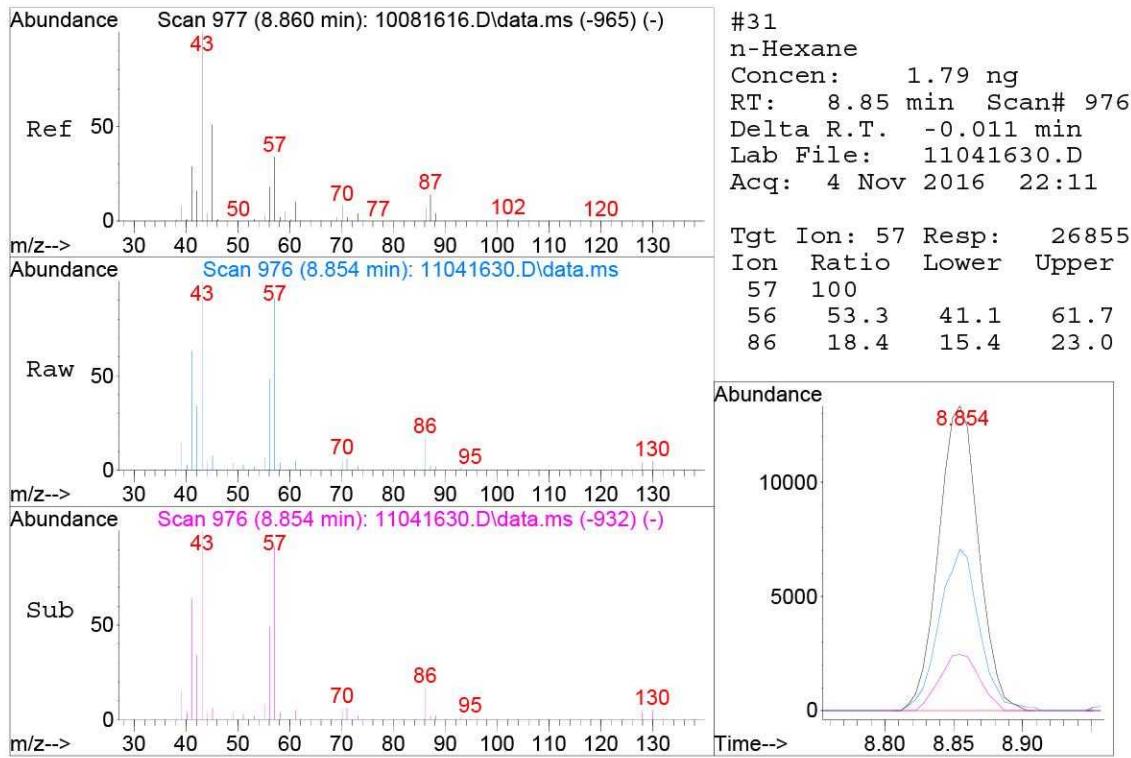


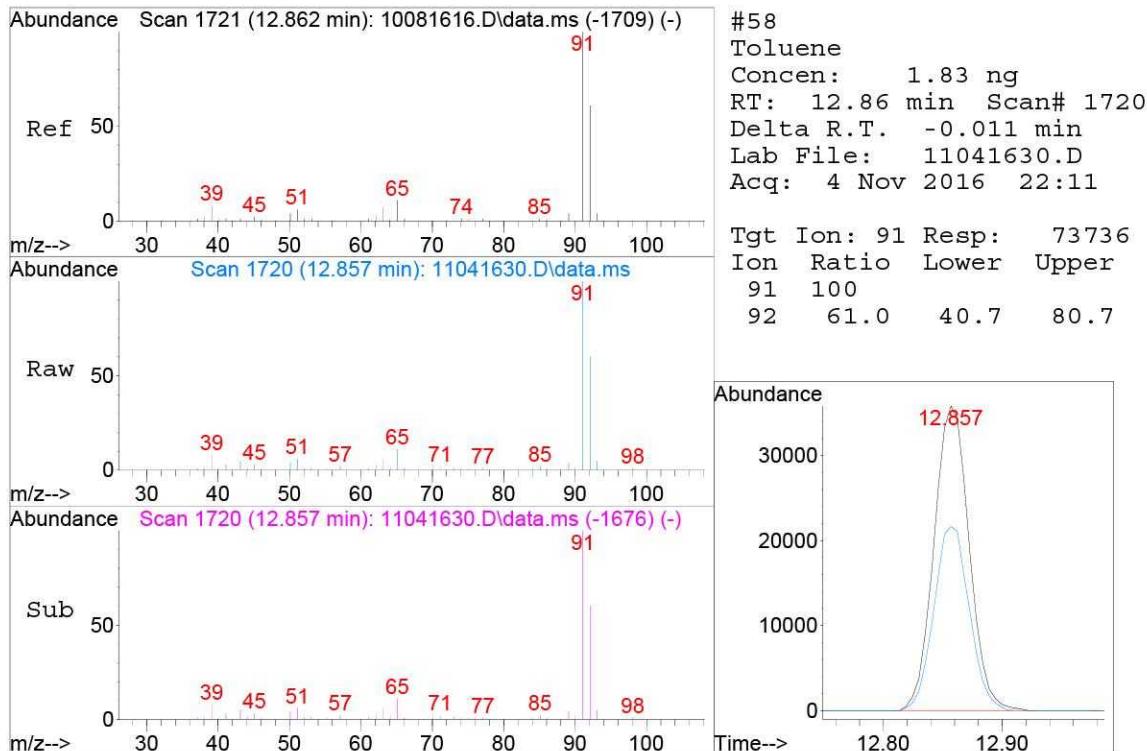
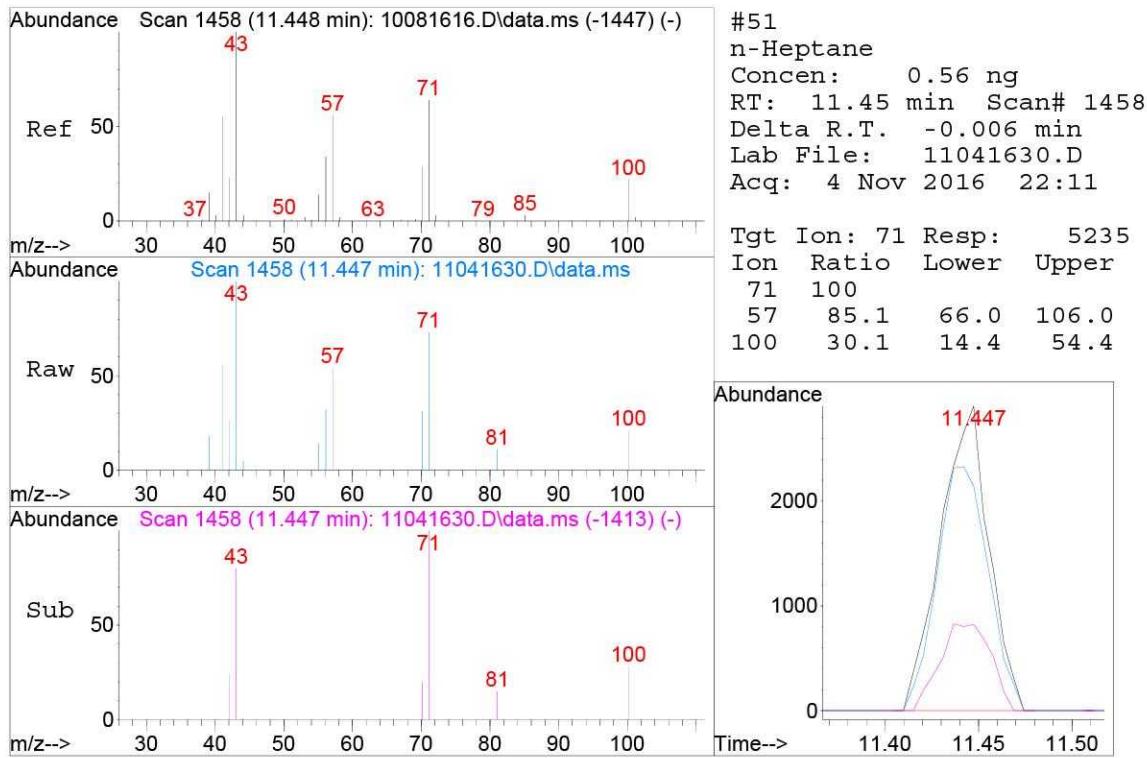


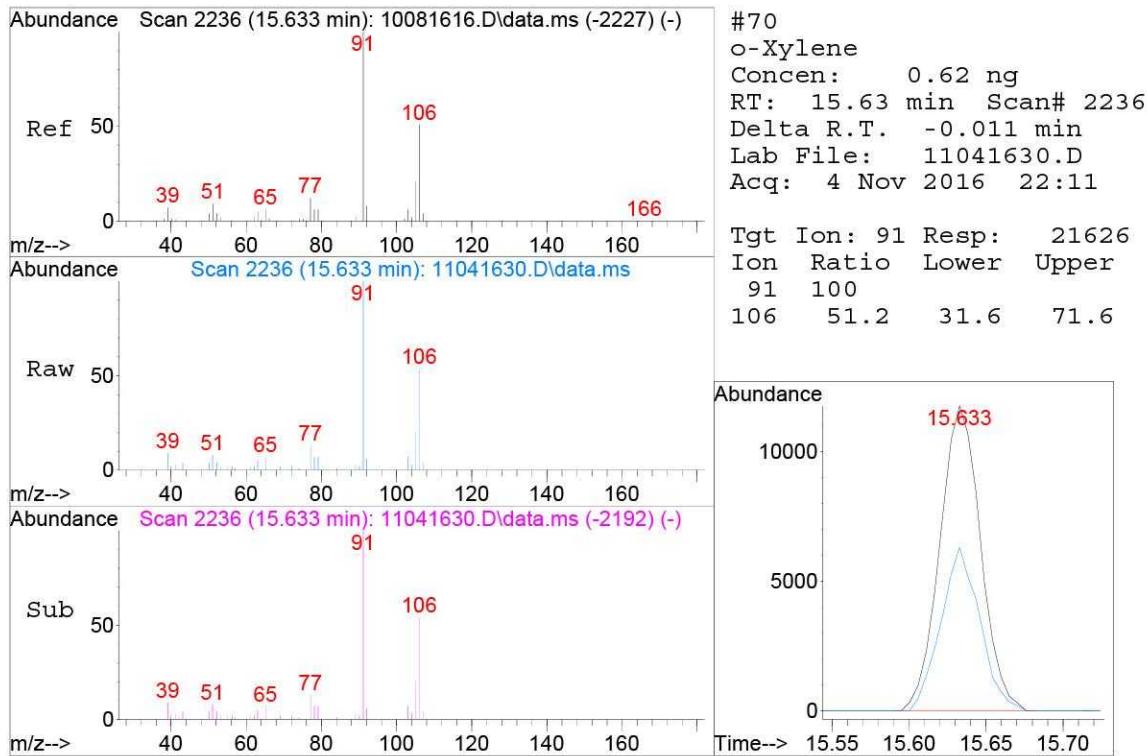
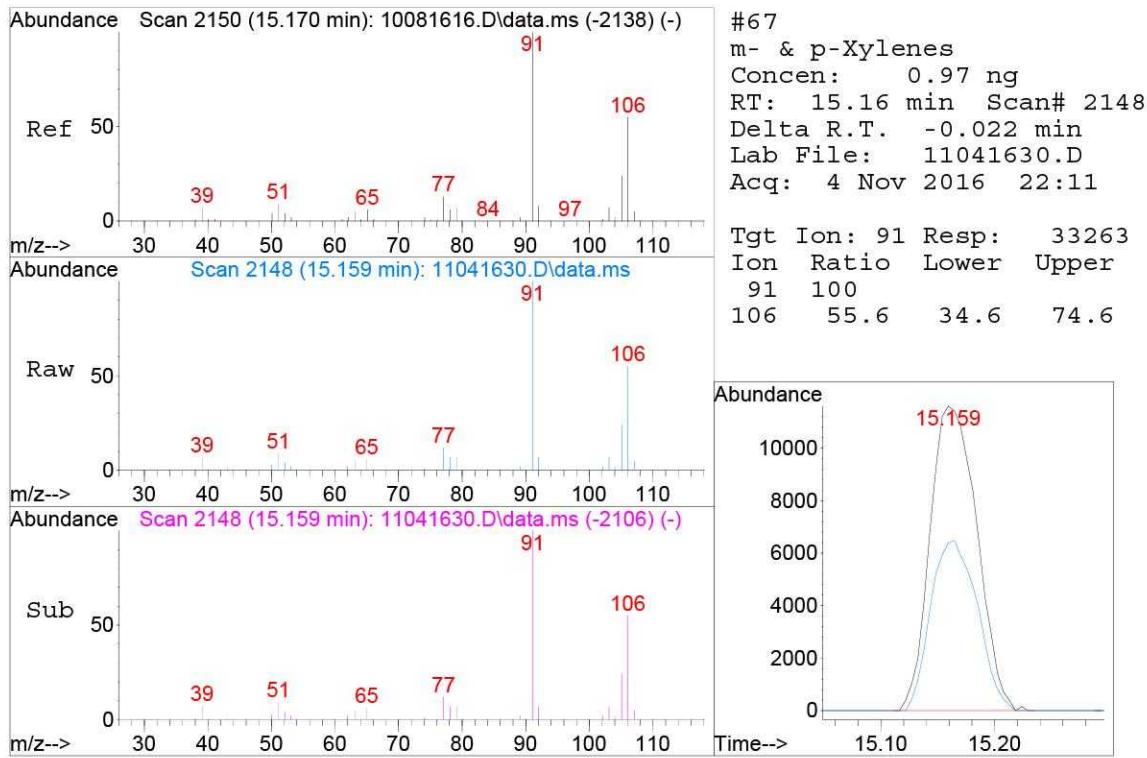


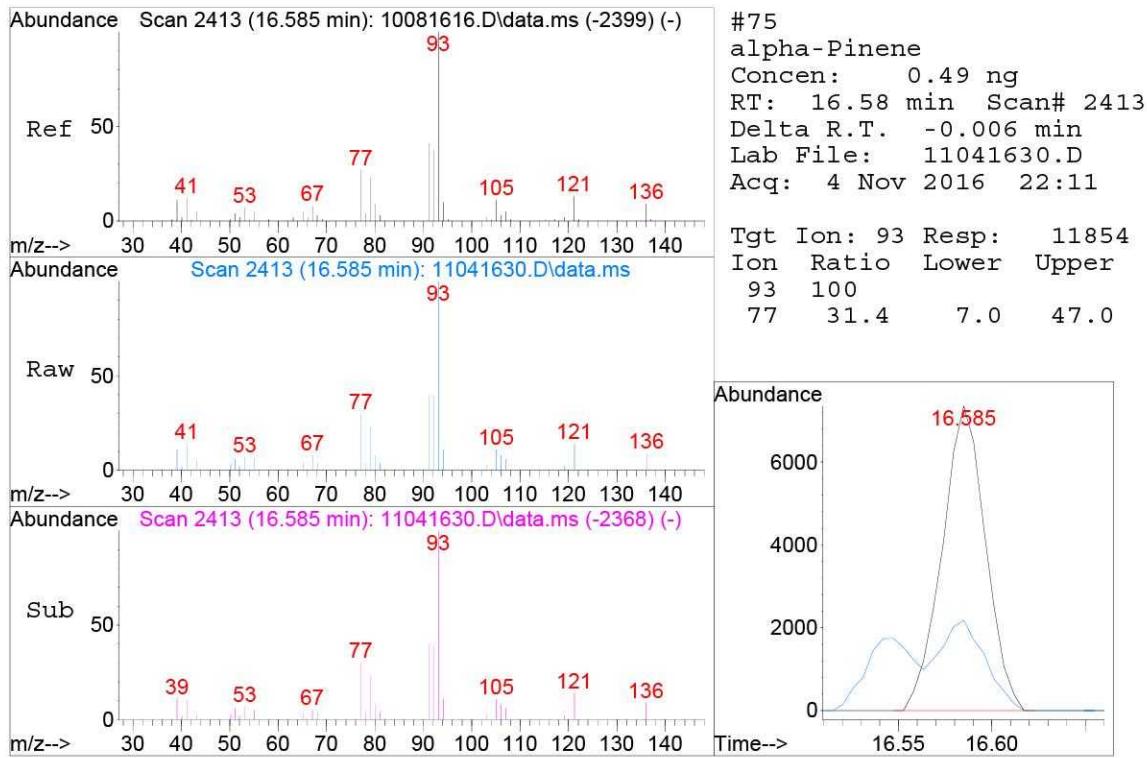












Data File: I:\MS08\Data\2016_11\04\11041621.D
 Acq On : 4 Nov 2016 17:19
 Sample : P1605059-002 (1000mL)
 Misc : S29-10041602
 ALS Vial : 3 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 07 15:34:30 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane (IS1)	8.78	130	122626	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	10.53	114	578266	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.56	82	234945	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.47	65	155889	12.692	ng	-0.03
Spiked Amount	12.500	Range	70 - 130	Recovery	=	101.52%
57) Toluene-d8 (SS2)	12.76	98	594706	12.723	ng	-0.01
Spiked Amount	12.500	Range	70 - 130	Recovery	=	101.76%
73) Bromofluorobenzene (SS3)	16.07	174	231723	11.997	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	96.00%

Target Compounds

					Qvalue	
2) Propene	3.90	42	5725	0.491	ng	# 57
3) Dichlorodifluoromethan...	3.99	85	26782	1.451	ng	99
4) Chloromethane	4.20	50	2170	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	4.35	135	624	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	4.65	54	418	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.36	45	21562	2.783	ng	97
11) Acetonitrile	5.58	41	2896	N.D.		
12) Acrolein	5.72	56	891	N.D.		
13) Acetone	5.84	58	40578	4.708	ng	# 1
14) Trichlorofluoromethane	6.00	101	13224	0.791	ng	98
15) 2-Propanol (Isopropanol)	6.14	45	8910	N.D.		
16) Acrylonitrile	6.39	53	1743	N.D.		
17) 1,1-Dichloroethene	6.65	96	2008	N.D.		
18) 2-Methyl-2-Propanol (t...	6.76	59	1163	N.D.		
19) Methylene Chloride	6.78	84	1831	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D. d		
21) Trichlorotrifluoroethane	7.05	151	3288	N.D.		
22) Carbon Disulfide	7.04	76	22172	0.581	ng	96
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D. d		
27) 2-Butanone (MEK)	8.25	72	3515	0.526	ng	# 80
28) cis-1,2-Dichloroethene	8.64	61	884	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	8.85	61	1972	0.569	ng	84
31) n-Hexane	8.85	57	27584	1.623	ng	97
32) Chloroform	8.91	83	1293	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	10.15	56	2338	N.D.		
41) Benzene	10.23	78	25410	0.551	ng	98
42) Carbon Tetrachloride	10.36	117	3977	N.D.		
43) Cyclohexane	10.48	84	5939	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	11.14	83	748	N.D.		
47) Trichloroethene	11.17	130	3749	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d		

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Data File: I:\MS08\Data\2016_11\04\11041621.D
 Acq On : 4 Nov 2016 17:19
 Sample : P1605059-002 (1000mL)
 Misc : S29-10041602
 ALS Vial : 3 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 07 15:34:30 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

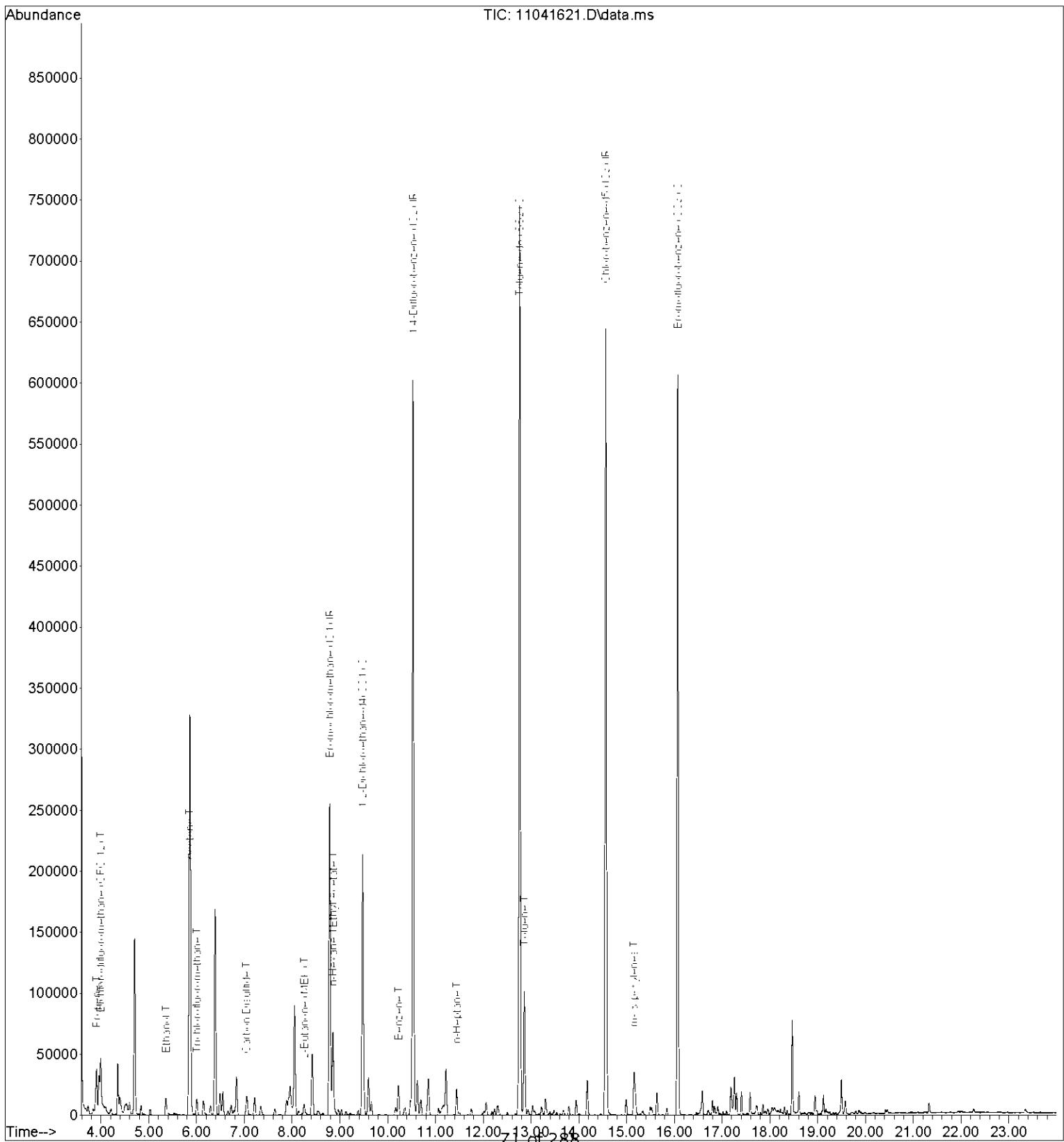
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
50) Methyl Methacrylate	11.44	100	1929	N.D.		
51) n-Heptane	11.44	71	5702	0.529	ng	99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.98	58	469	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.86	91	84747	1.847	ng	99
59) 2-Hexanone	13.08	43	2146	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.67	43	3577	N.D.		
63) n-Octane	13.79	57	1557	N.D.		
64) Tetrachloroethene	13.95	166	5284	N.D.		
65) Chlorobenzene	14.60	112	404	N.D.		
66) Ethylbenzene	14.99	91	13008	N.D.		
67) m- & p-Xylenes	15.15	91	33567	0.863	ng	97
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	15.53	104	4144	N.D.		
70) o-Xylene	15.63	91	12756	N.D.		
71) n-Nonane	15.84	43	2388	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	16.21	105	994	N.D.		
75) alpha-Pinene	16.58	93	8646	N.D.		
76) n-Propylbenzene	16.70	91	3159	N.D.		
77) 3-Ethyltoluene	16.79	105	8489	N.D.		
78) 4-Ethyltoluene	16.84	105	3745	N.D.		
79) 1,3,5-Trimethylbenzene	16.91	105	2917	N.D.		
80) alpha-Methylstyrene	17.06	118	467	N.D.		
81) 2-Ethyltoluene	17.09	105	3214	N.D.		
82) 1,2,4-Trimethylbenzene	17.30	105	10597	N.D.		
83) n-Decane	17.40	57	6752	N.D.		
84) Benzyl Chloride	17.31	91	1093	N.D.		
85) 1,3-Dichlorobenzene	17.52	146	1102	N.D.		
86) 1,4-Dichlorobenzene	17.52	146	1102	N.D.		
87) sec-Butylbenzene	17.71	105	2647	N.D.		
88) 4-Isopropyltoluene (p-...)	17.71	119	2466	N.D.		
89) 1,2,3-Trimethylbenzene	17.71	105	2647	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	17.85	68	2390	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	18.60	57	5871	N.D.		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	19.57	128	5482	N.D.		
96) n-Dodecane	19.58	57	2421	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	15.32	55	1171	N.D.		
99) tert-Butylbenzene	17.30	119	1425	N.D.		
100) n-Butylbenzene	18.10	91	750	N.D.		

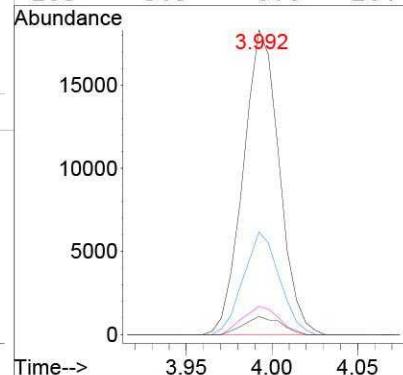
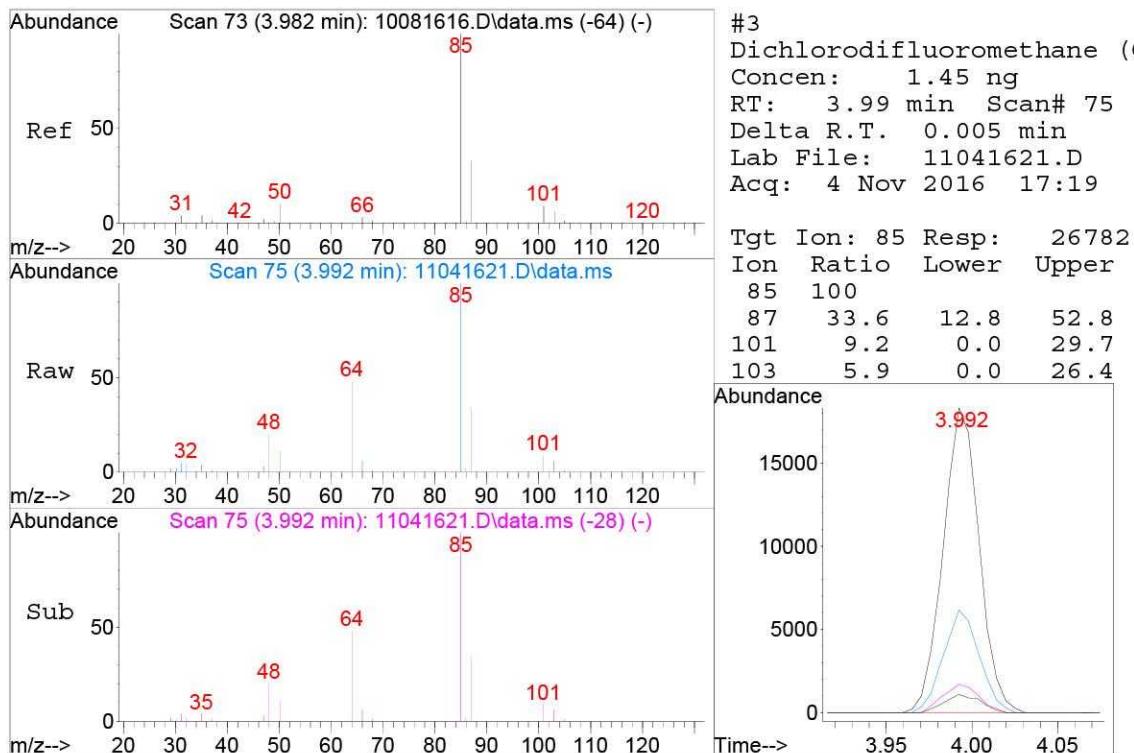
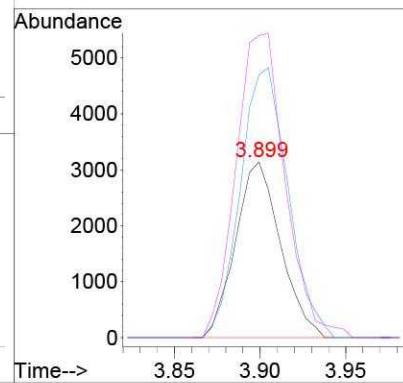
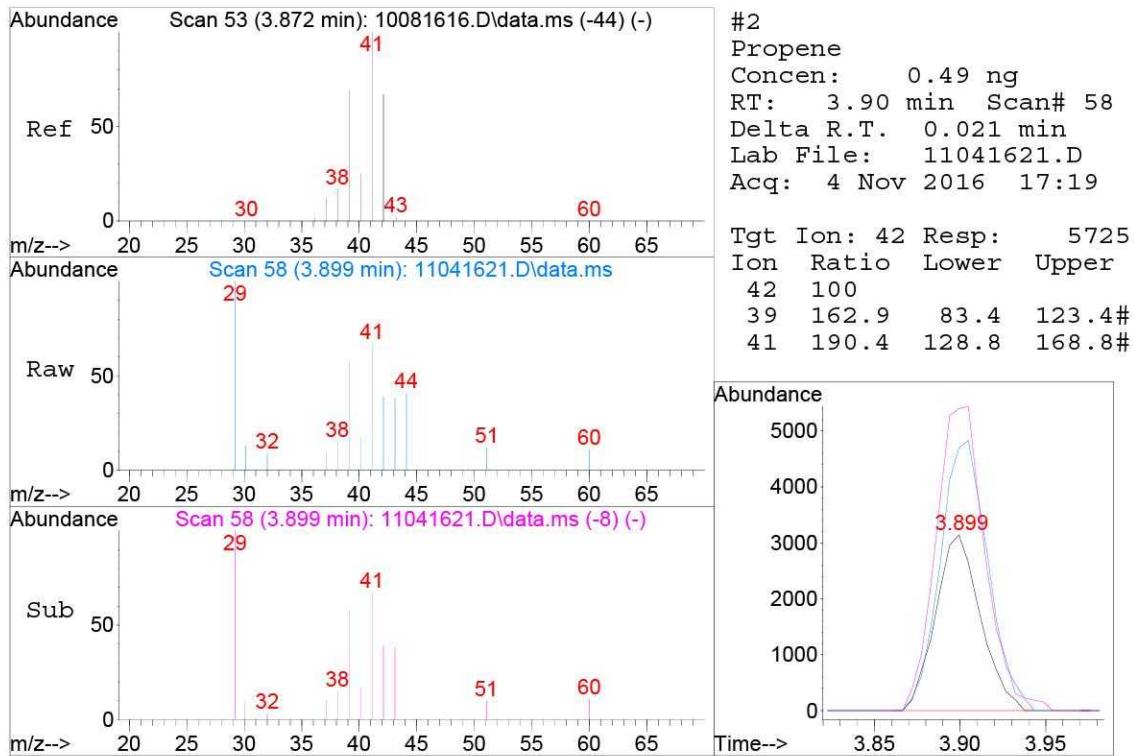
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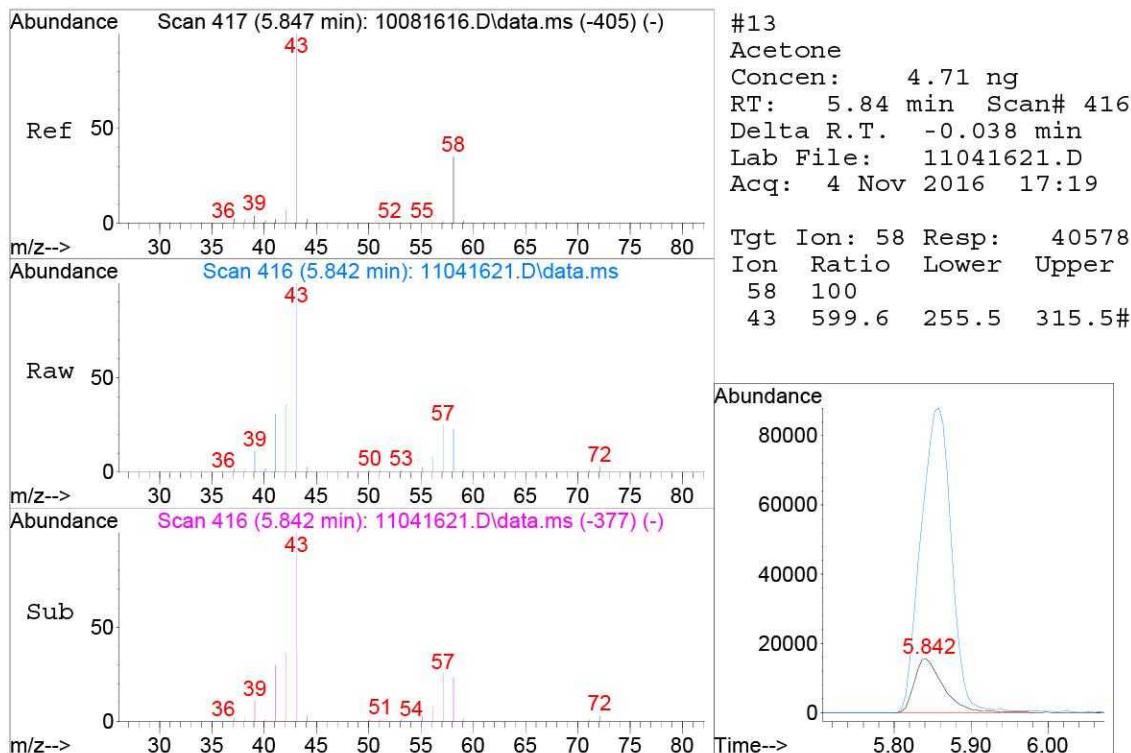
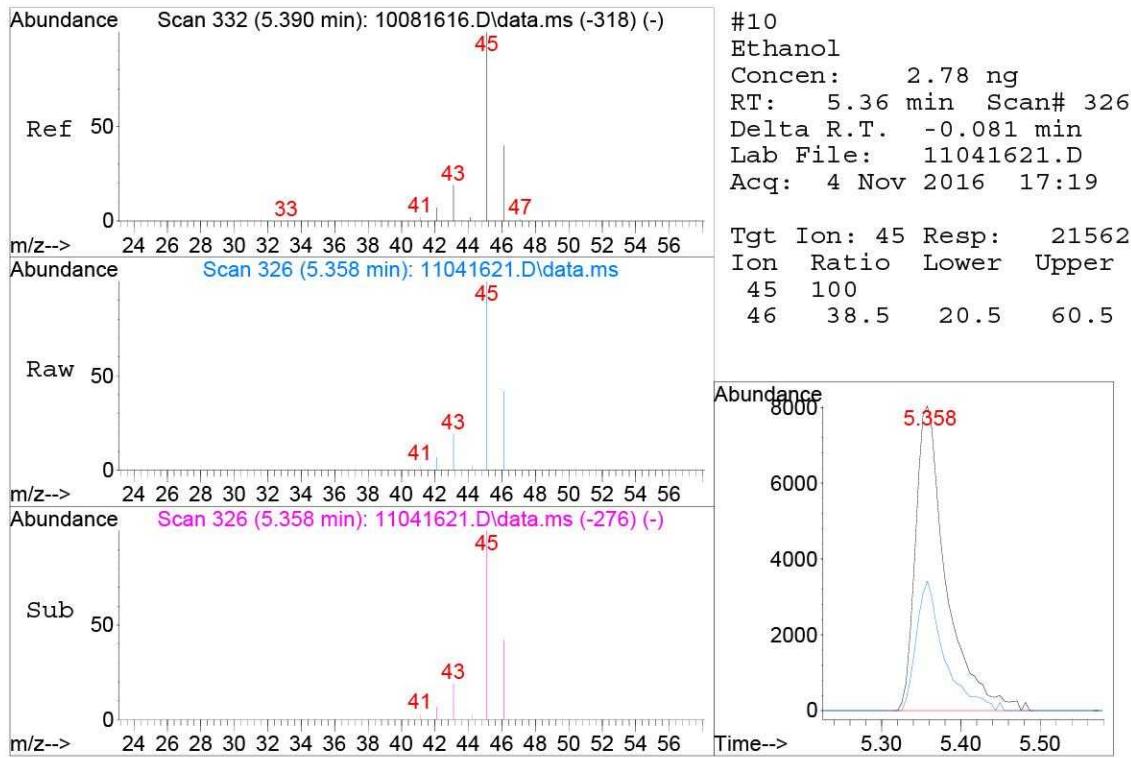
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Acq On : 4 Nov 2016 17:19
Sample : P1605059-002 (1000mL)
Misc : S29-10041602
ALS Vial : 3 Sample Multiplier: 1

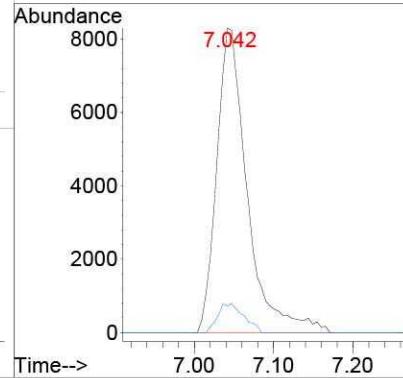
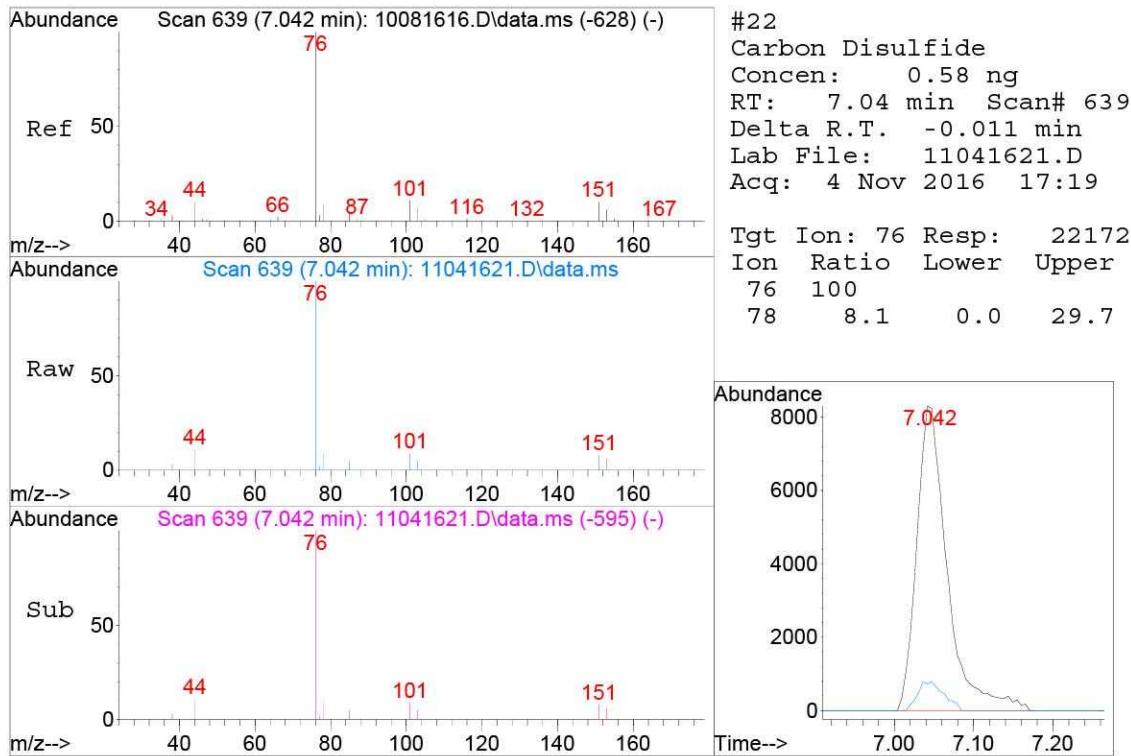
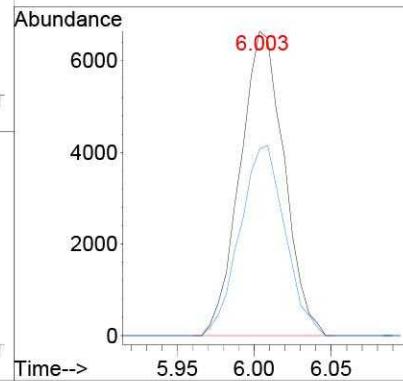
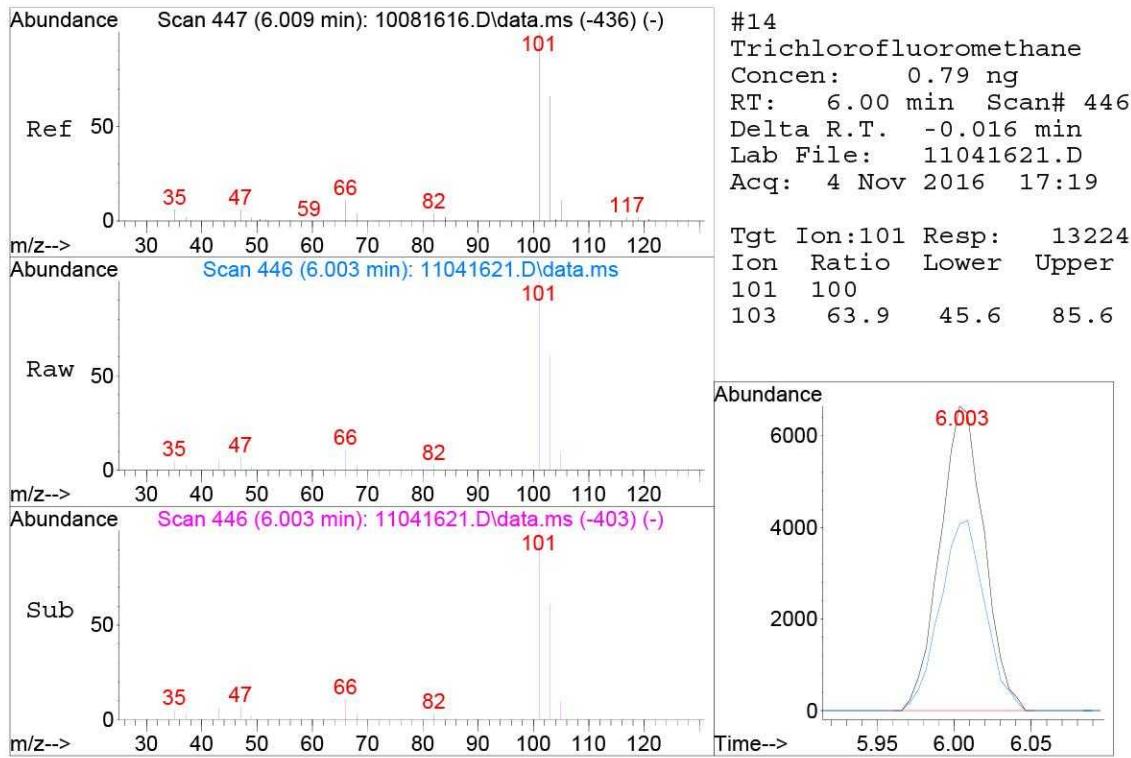
Operator: WA

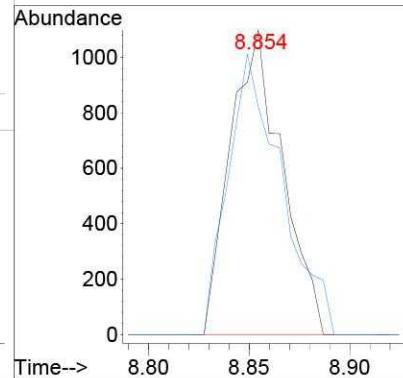
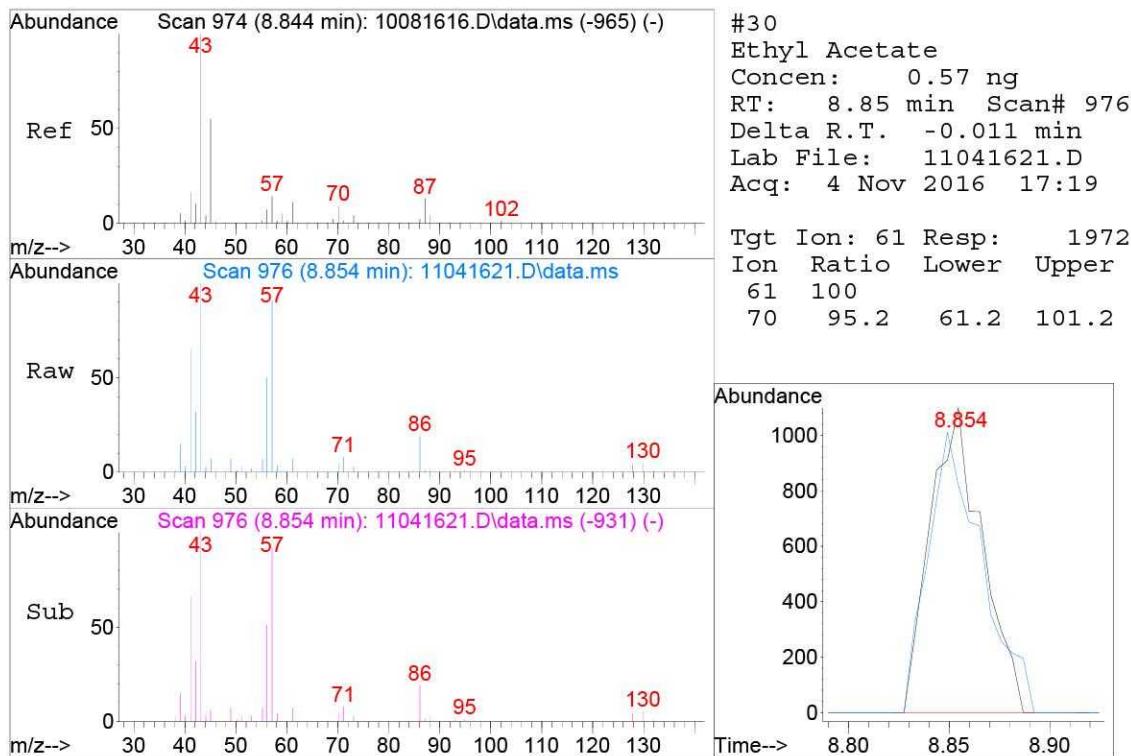
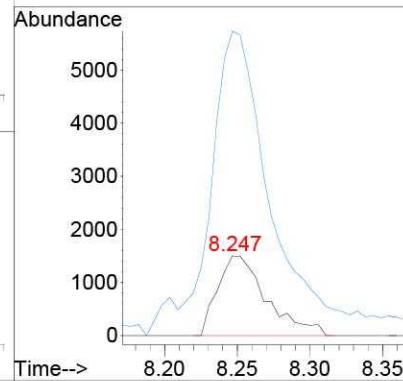
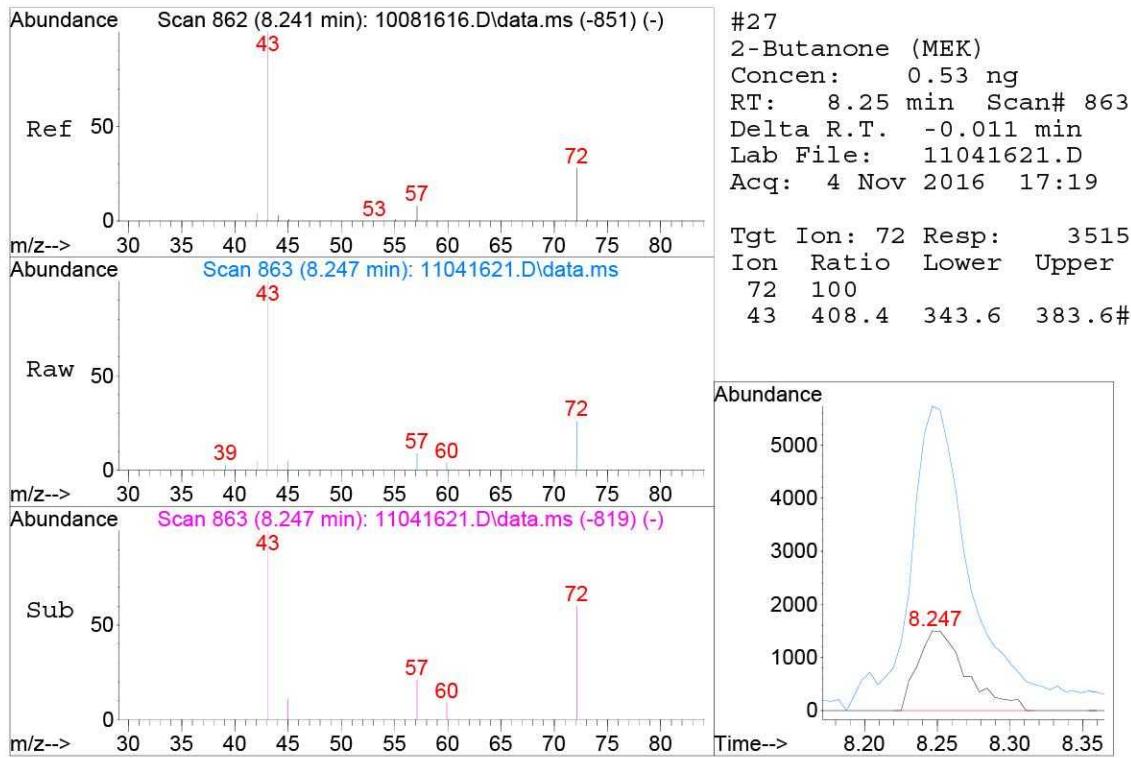
Quant Time: Nov 07 15:34:30 2016
Quant Method : I:\MS08\Methods\R8100816.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 12 15:54:53 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

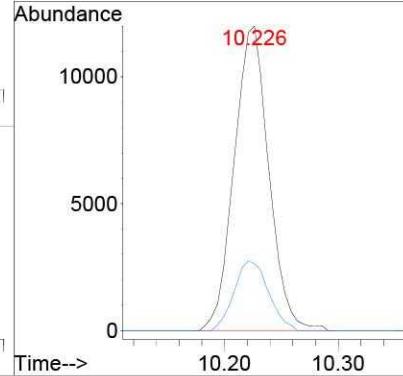
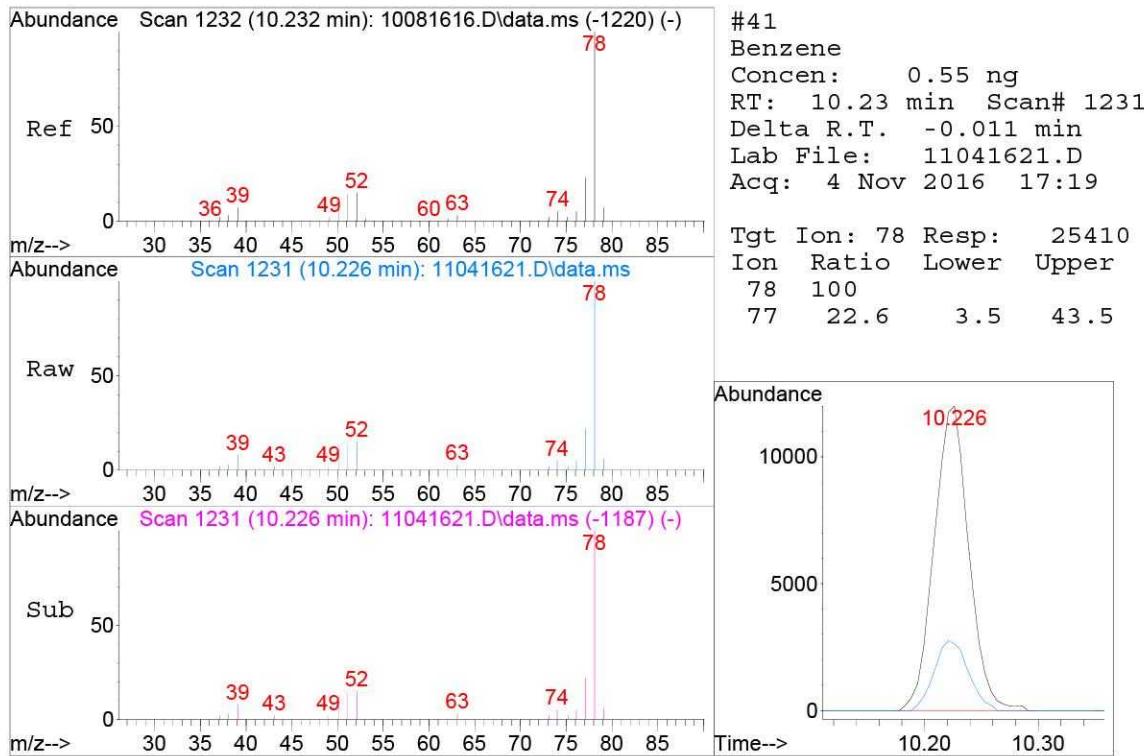
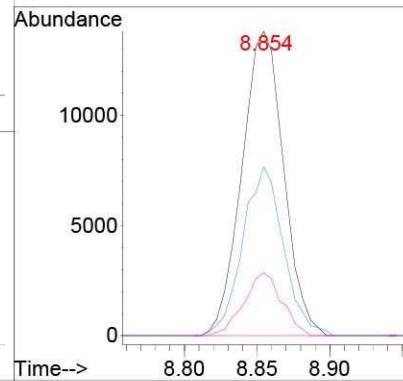
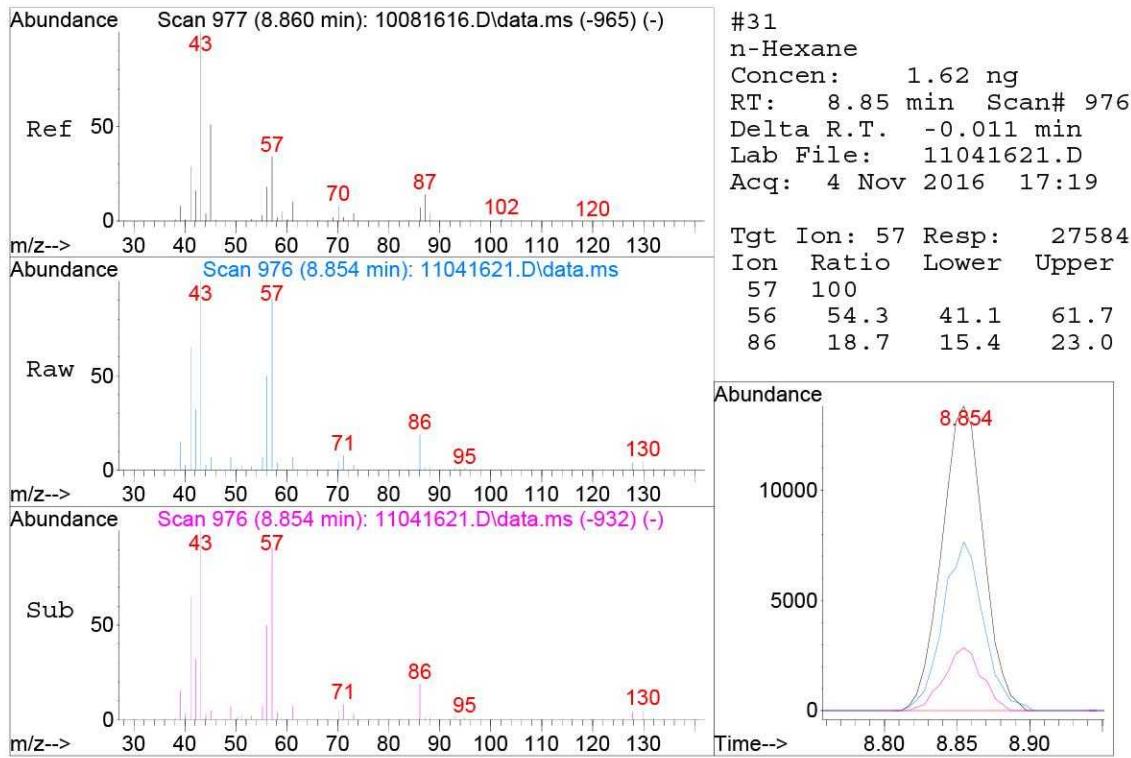


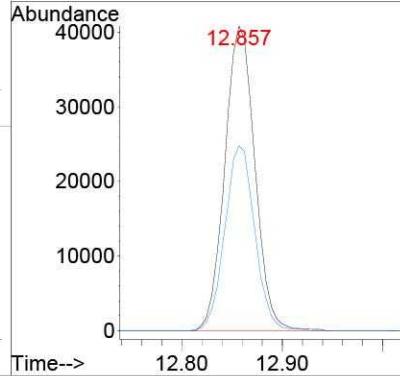
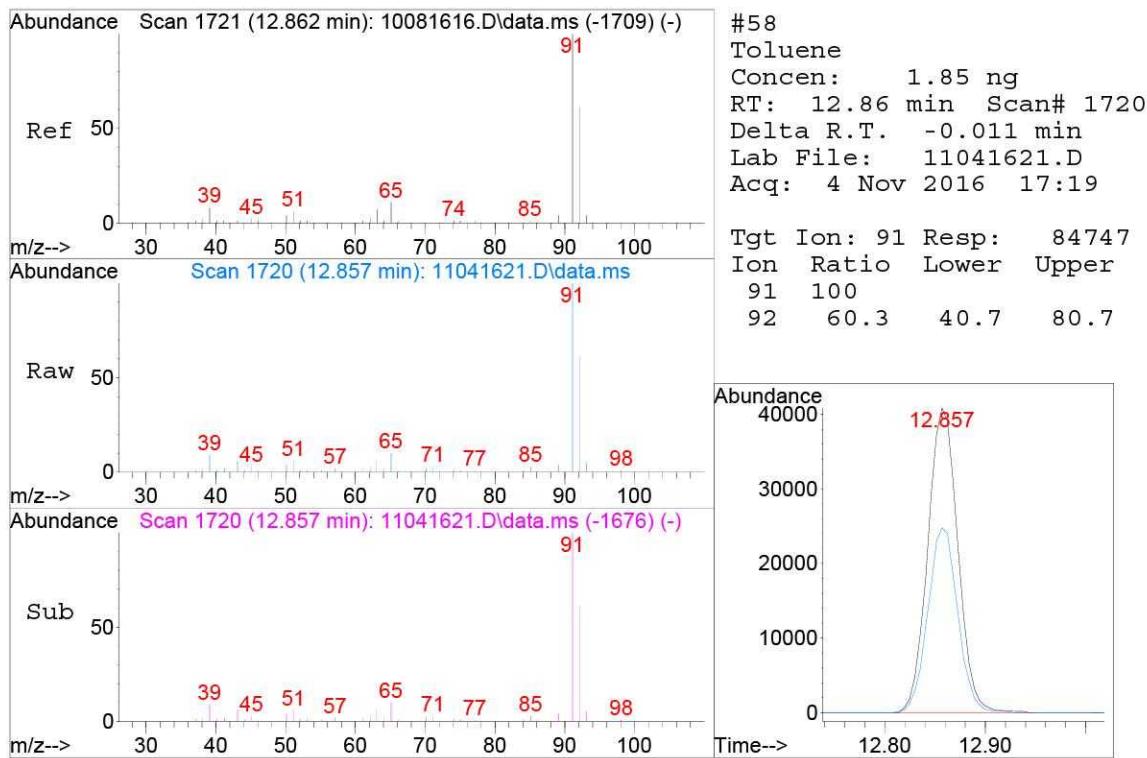
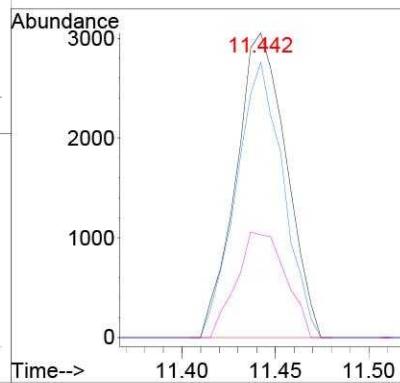
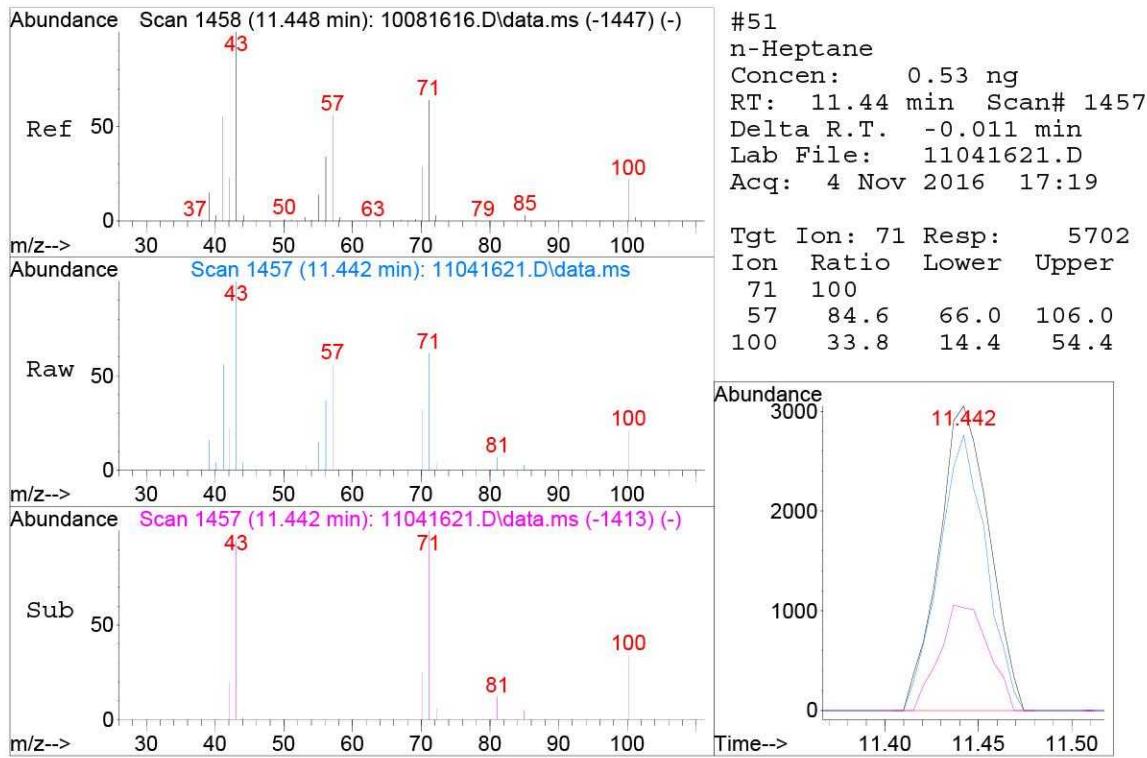


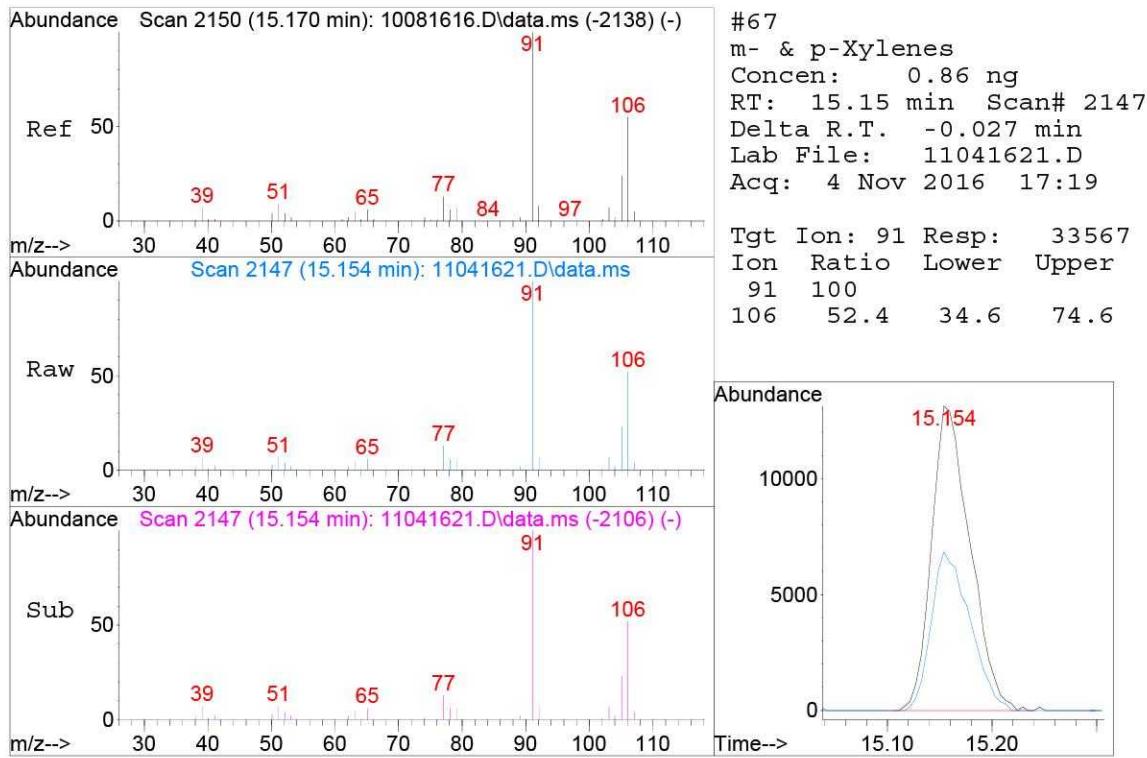












Data File: I:\MS08\Data\2016_11\04\11041622.D
 Acq On : 4 Nov 2016 17:51
 Sample : P1605059-003 (1000mL)
 Misc : S29-10041602
 ALS Vial : 9 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 07 15:45:44 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane (IS1)	8.79	130	121625	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	10.53	114	572678	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	14.56	82	232631	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.48	65	155997	12.806	ng	-0.02
Spiked Amount	12.500	Range	70 - 130	Recovery	=	102.48%
57) Toluene-d8 (SS2)	12.77	98	591154	12.772	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	102.16%
73) Bromofluorobenzene (SS3)	16.07	174	230209	12.037	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	96.32%

Target Compounds

						Qvalue
2) Propene	3.88	42	12814	1.108	ng	# 76
3) Dichlorodifluoromethan...	3.99	85	34451	1.881	ng	100
4) Chloromethane	4.19	50	1772	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	4.35	135	909	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	4.65	54	650	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	5.16	64	727	N.D.		
10) Ethanol	5.36	45	47473	6.177	ng	98
11) Acetonitrile	5.58	41	7032	N.D.		
12) Acrolein	5.70	56	9171	1.432	ng	99
13) Acetone	5.83	58	99674m	11.659	ng	
14) Trichlorofluoromethane	6.01	101	16237	0.979	ng	99
15) 2-Propanol (Isopropanol)	6.13	45	22383	0.943	ng	93
16) Acrylonitrile	6.39	53	4028	N.D.		
17) 1,1-Dichloroethene	6.65	96	10535	1.073	ng	97
18) 2-Methyl-2-Propanol (t...	6.75	59	5174	N.D.		
19) Methylene Chloride	6.78	84	2704	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D. d		
21) Trichlorotrifluoroethane	7.06	151	4065	N.D.		
22) Carbon Disulfide	7.05	76	12160	N.D.		
23) trans-1,2-Dichloroethene	7.88	61	1070	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	8.12	73	1182	N.D.		
26) Vinyl Acetate	8.00	86	10513	3.727	ng	# 1
27) 2-Butanone (MEK)	8.24	72	22206	3.349	ng	# 1
28) cis-1,2-Dichloroethene	8.64	61	1686	N.D.		
29) Diisopropyl Ether	8.85	87	1109	N.D.		
30) Ethyl Acetate	8.85	61	4836	1.406	ng	86
31) n-Hexane	8.85	57	77841	4.617	ng	97
32) Chloroform	8.91	83	2655	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	9.58	62	637	N.D.		
38) 1,1,1-Trichloroethane	9.81	97	602	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D. d		
41) Benzene	10.22	78	54244	1.189	ng	97
42) Carbon Tetrachloride	10.36	117	5252	N.D.		
43) Cyclohexane	10.48	84	17370	0.979	ng	93
44) tert-Amyl Methyl Ether	10.64	73	2156	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	11.14	83	2167	N.D.		
47) Trichloroethene	11.17	130	9550	0.650	ng	97
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d		

Data File: I:\MS08\Data\2016_11\04\11041622.D
 Acq On : 4 Nov 2016 17:51
 Sample : P1605059-003 (1000mL)
 Misc : S29-10041602
 ALS Vial : 9 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 07 15:45:44 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

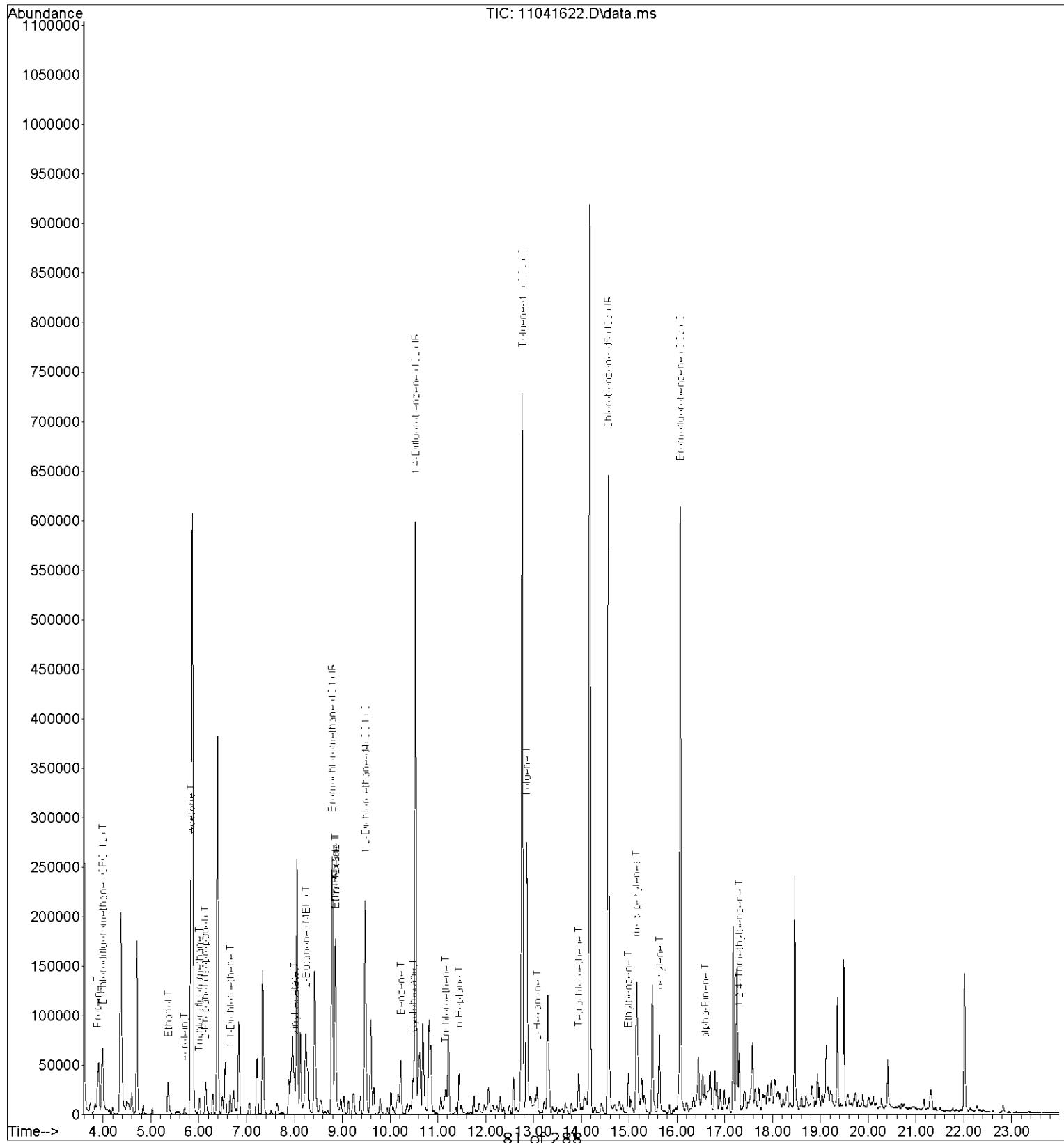
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
50) Methyl Methacrylate	0.00	100	0	N.D.	d	
51) n-Heptane	11.44	71	10832	1.015	ng	98
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.97	58	2766	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.86	91	227591	5.009	ng	99
59) 2-Hexanone	13.07	43	18071	0.837	ng	95
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.67	43	8144	N.D.		
63) n-Octane	13.79	57	2527	N.D.		
64) Tetrachloroethene	13.94	166	16070	1.093	ng	98
65) Chlorobenzene	14.61	112	938	N.D.		
66) Ethylbenzene	14.98	91	38892	0.776	ng	97
67) m- & p-Xylenes	15.15	91	104442	2.711	ng	98
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	15.53	104	5706	N.D.		
70) o-Xylene	15.63	91	40359	1.020	ng	97
71) n-Nonane	15.84	43	3697	N.D.		
72) 1,1,2,2-Tetrachloroethane	15.64	83	1157	N.D.		
74) Cumene	16.20	105	2523	N.D.		
75) alpha-Pinene	16.58	93	12787	0.468	ng	100
76) n-Propylbenzene	16.69	91	7101	N.D.		
77) 3-Ethyltoluene	16.79	105	21228	N.D.		
78) 4-Ethyltoluene	16.83	105	8899	N.D.		
79) 1,3,5-Trimethylbenzene	16.91	105	9359	N.D.		
80) alpha-Methylstyrene	17.05	118	919	N.D.		
81) 2-Ethyltoluene	17.09	105	9252	N.D.		
82) 1,2,4-Trimethylbenzene	17.30	105	31796	0.723	ng	86
83) n-Decane	17.40	57	7000	N.D.		
84) Benzyl Chloride	17.43	91	1597	N.D.		
85) 1,3-Dichlorobenzene	17.51	146	1430	N.D.		
86) 1,4-Dichlorobenzene	17.51	146	1430	N.D.		
87) sec-Butylbenzene	17.57	105	472	N.D.		
88) 4-Isopropyltoluene (p-...)	17.71	119	2739	N.D.		
89) 1,2,3-Trimethylbenzene	17.71	105	8124	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	17.85	68	2492	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	18.60	57	3453	N.D.		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	19.57	128	8409	N.D.		
96) n-Dodecane	19.58	57	2186	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	17.26	119	2438	N.D.		
100) n-Butylbenzene	18.10	91	6042	N.D.		

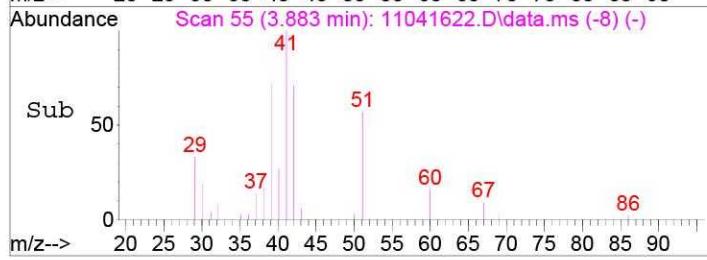
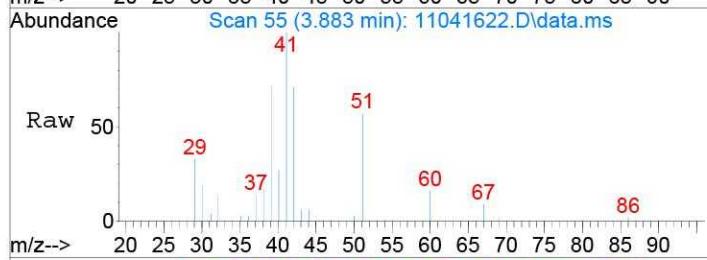
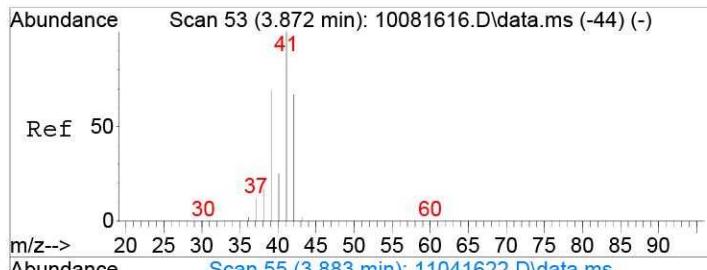
(#= qualifier out of range (m)= manual integration (+)= signals summed)

Data File: I:\MS08\Data\2016_11\04\11041622.D
Acq On : 4 Nov 2016 17:51
Sample : P1605059-003 (1000mL)
Misc : S29-10041602
ALS Vial : 9 Sample Multiplier: 1

Operator: WA

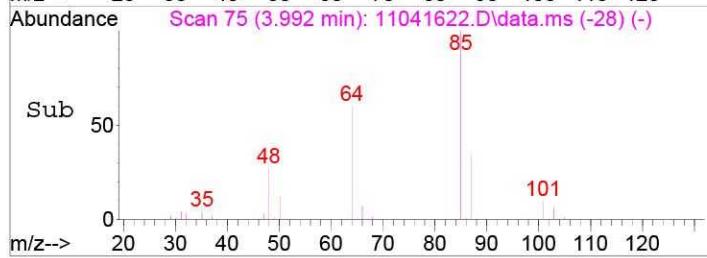
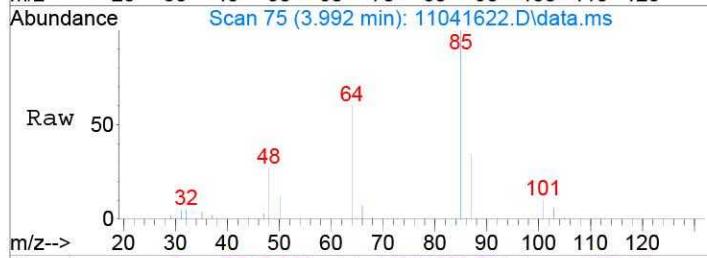
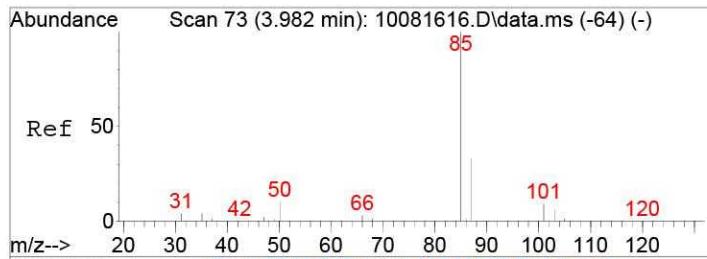
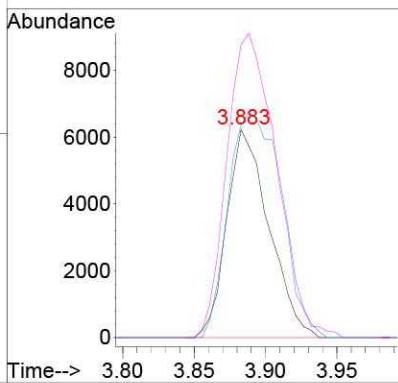
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Quant Method : I:\MS08\Methods\R8100816.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 12 15:54:53 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M





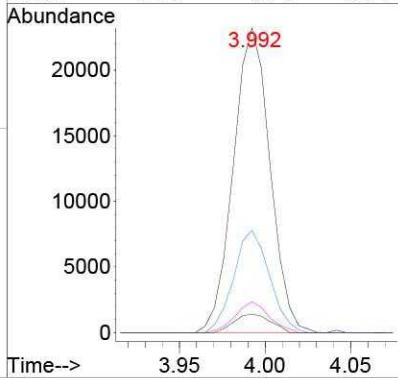
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Propene
Concen: 1.11 ng
RT: 3.88 min Scan# 55
Delta R.T. 0.005 min
Lab File: 11041622.D
Acq: 4 Nov 2016 17:51

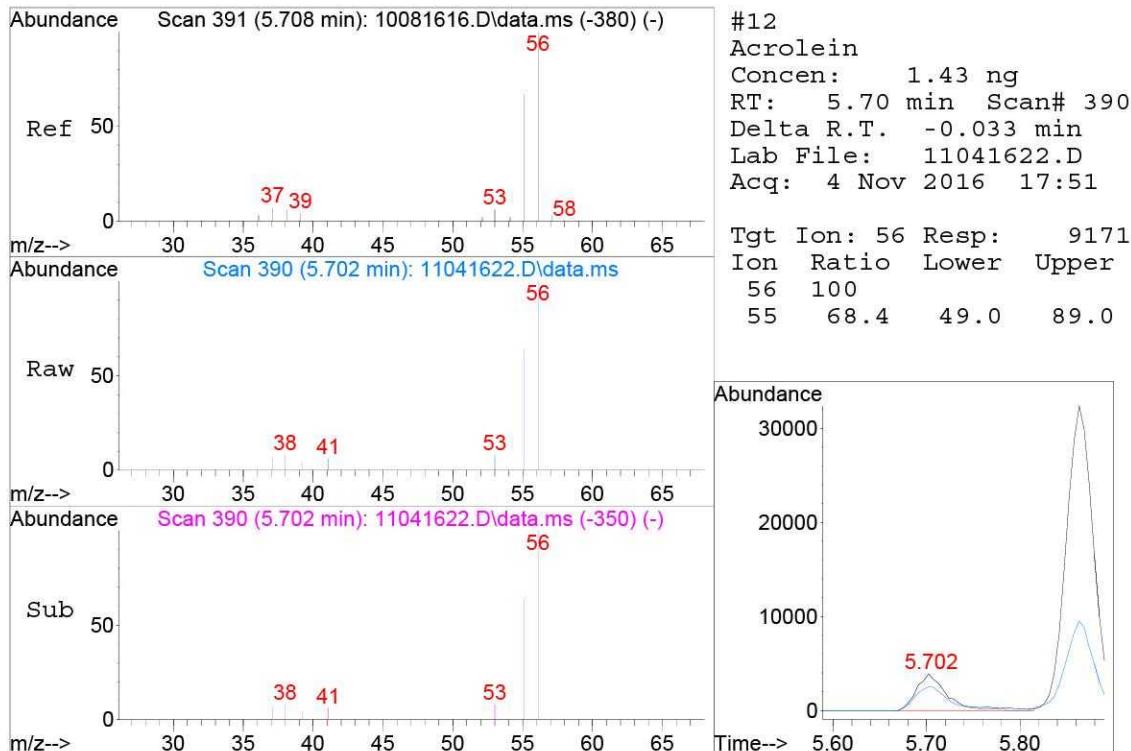
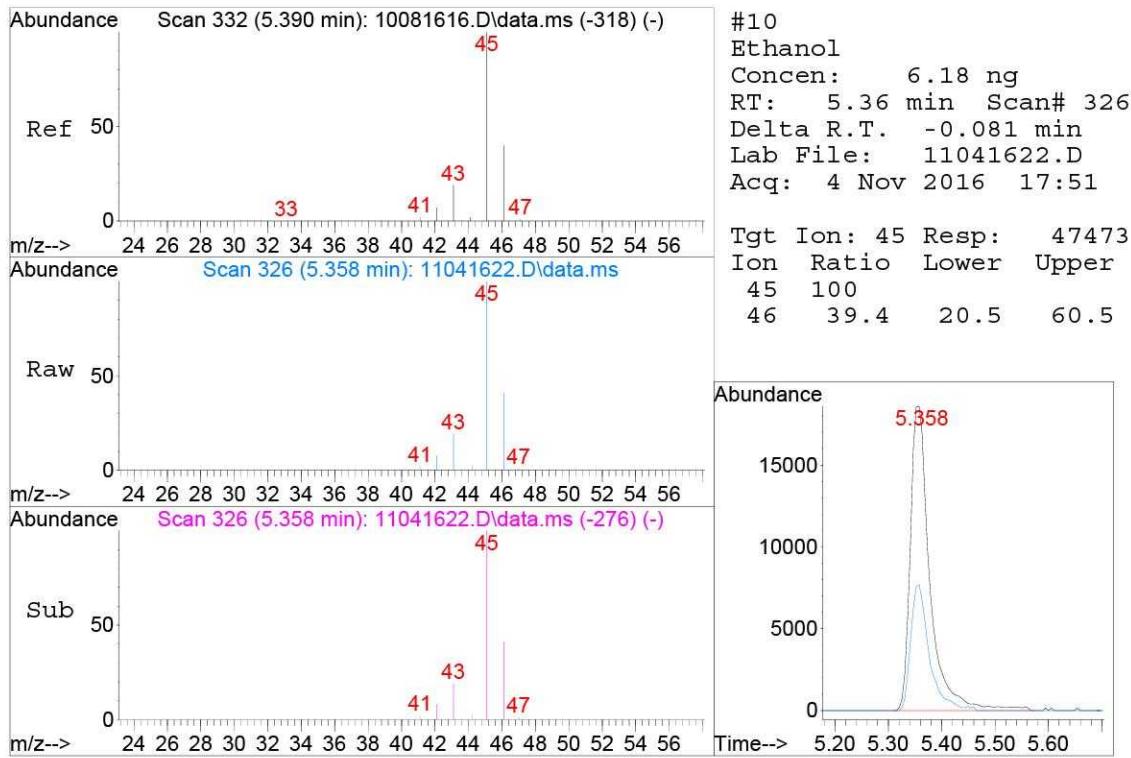
Tgt Ion: 42 Resp: 12814
Ion Ratio Lower Upper
42 100
39 137.4 83.4 123.4#
41 170.6 128.8 168.8#

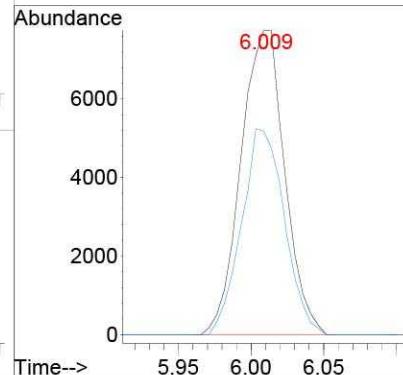
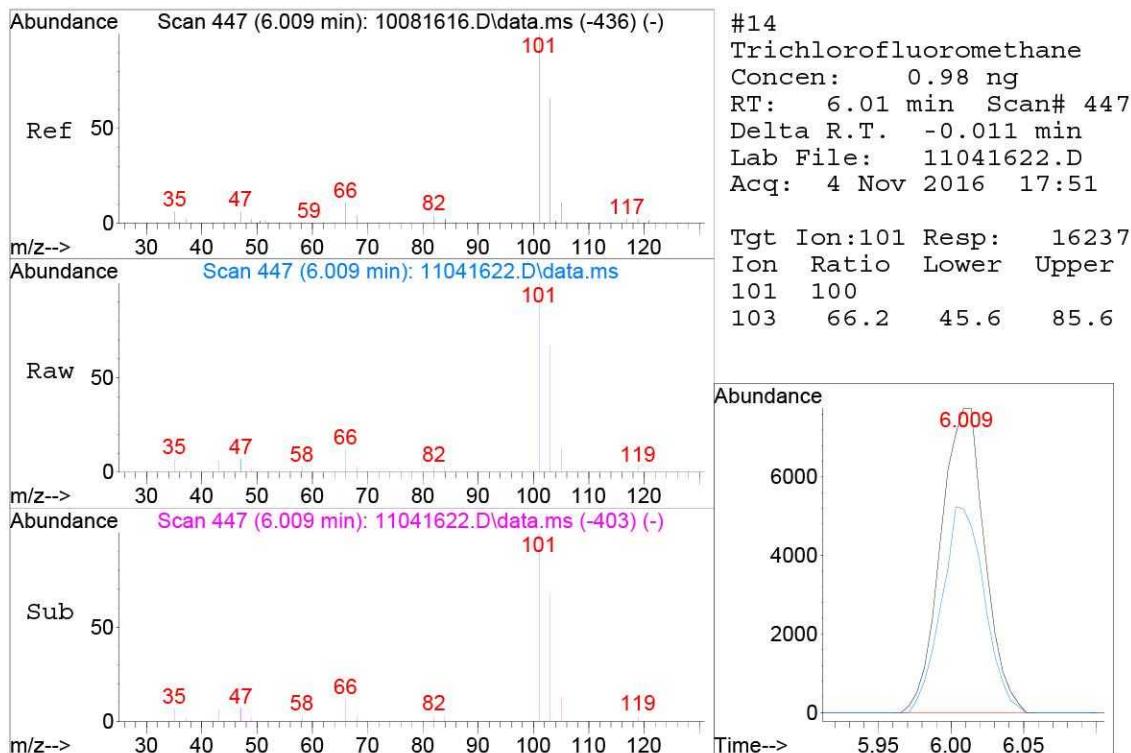
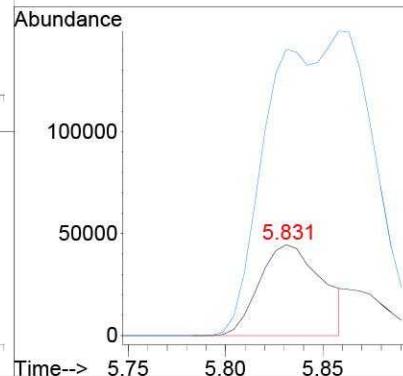
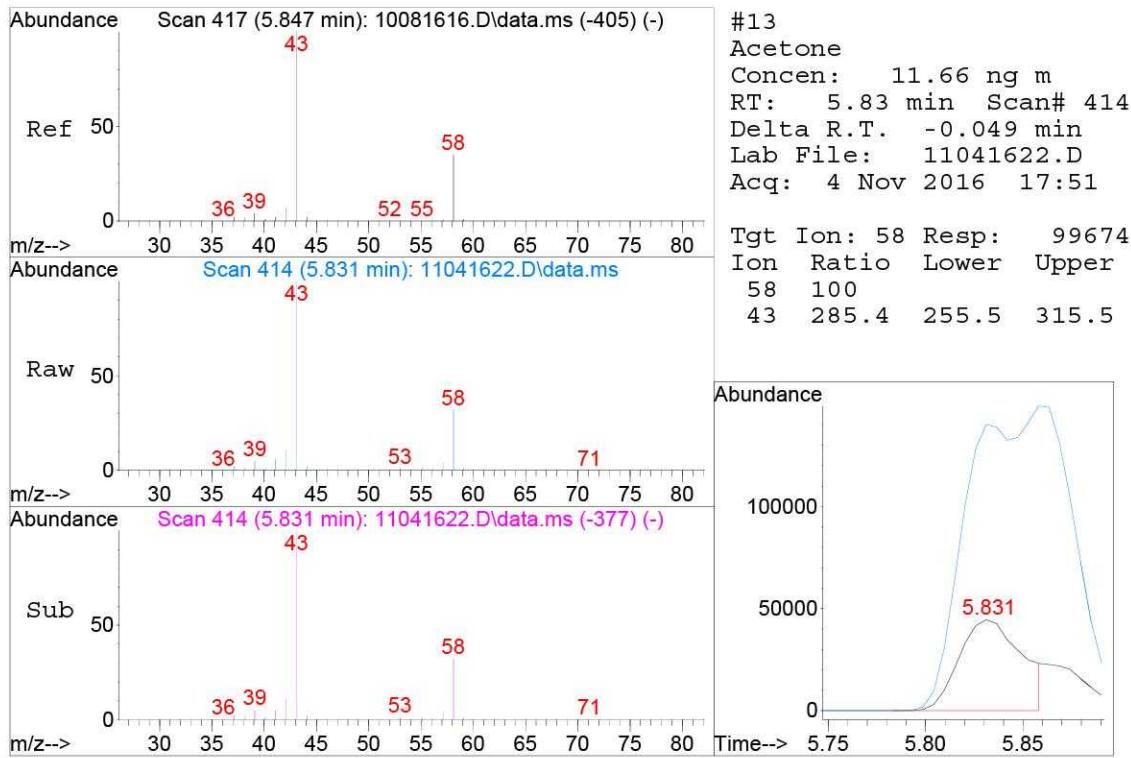


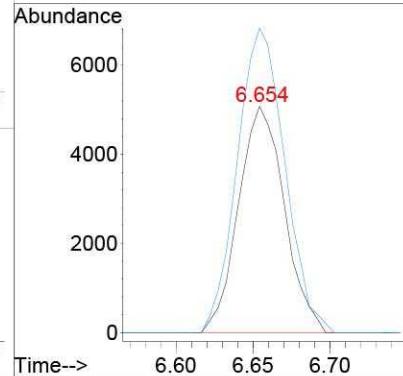
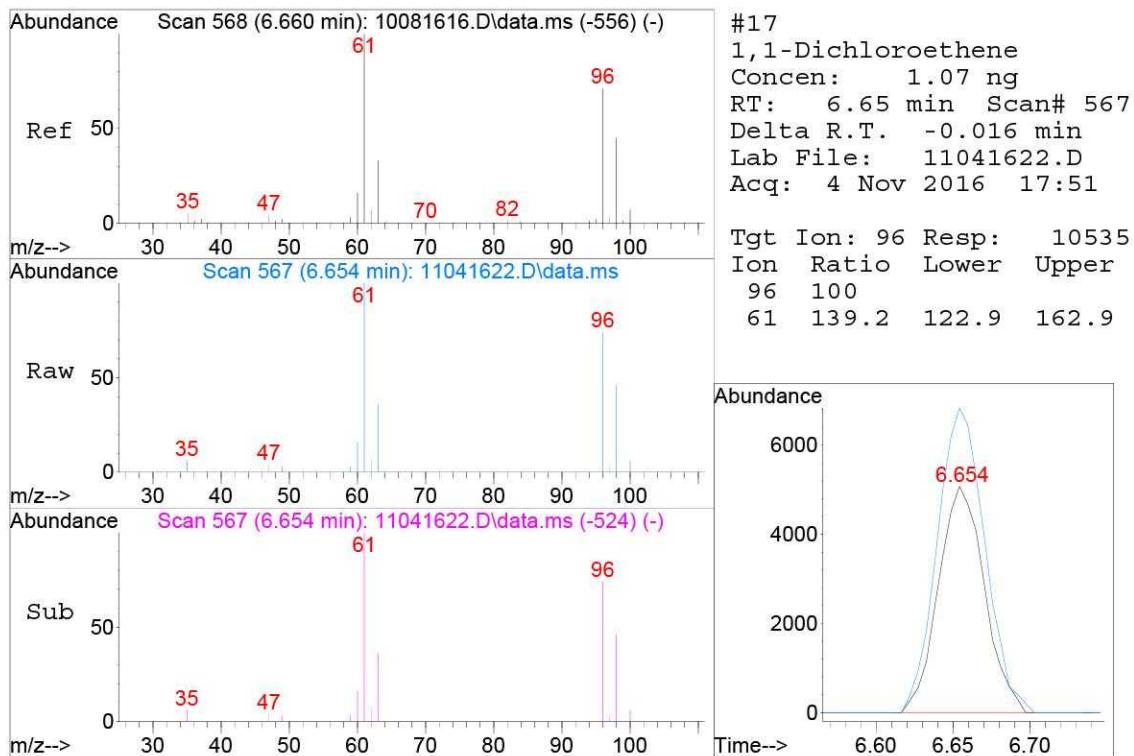
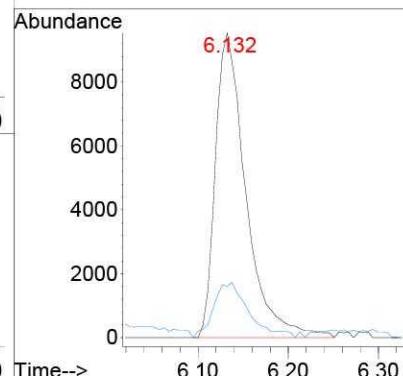
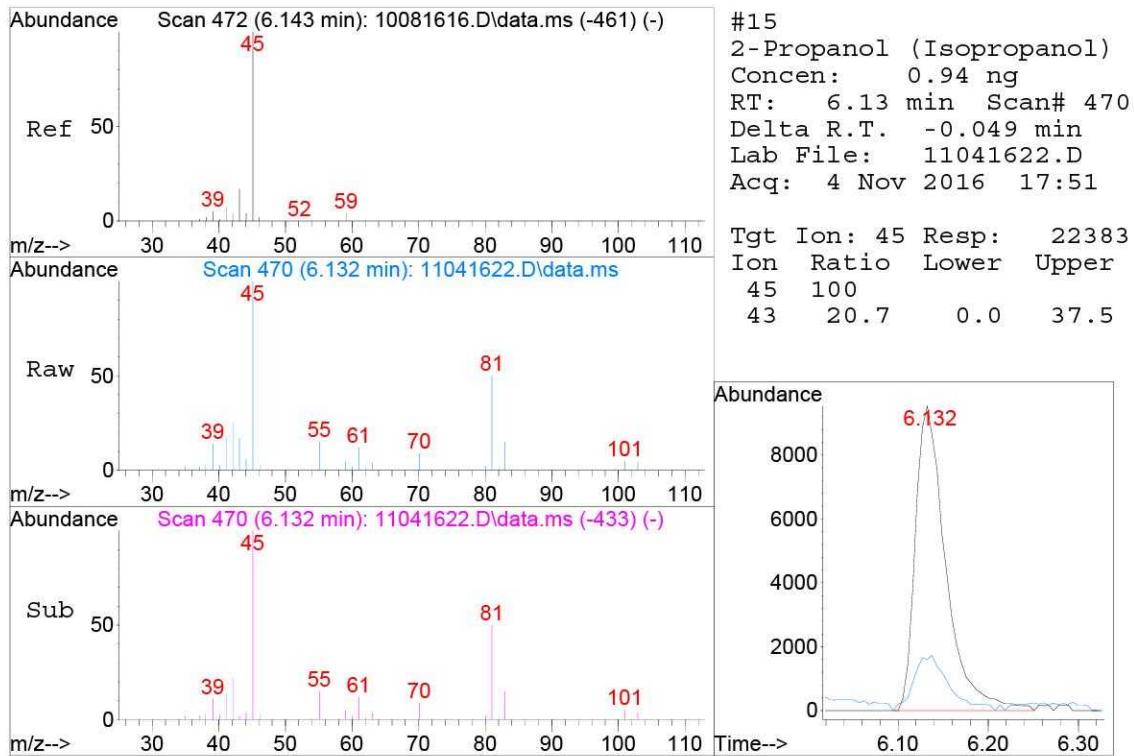
#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.88 ng
RT: 3.99 min Scan# 75
Delta R.T. 0.005 min
Lab File: 11041622.D
Acq: 4 Nov 2016 17:51

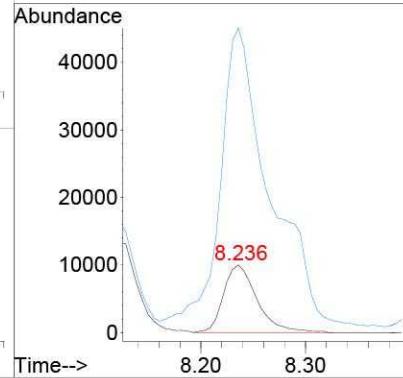
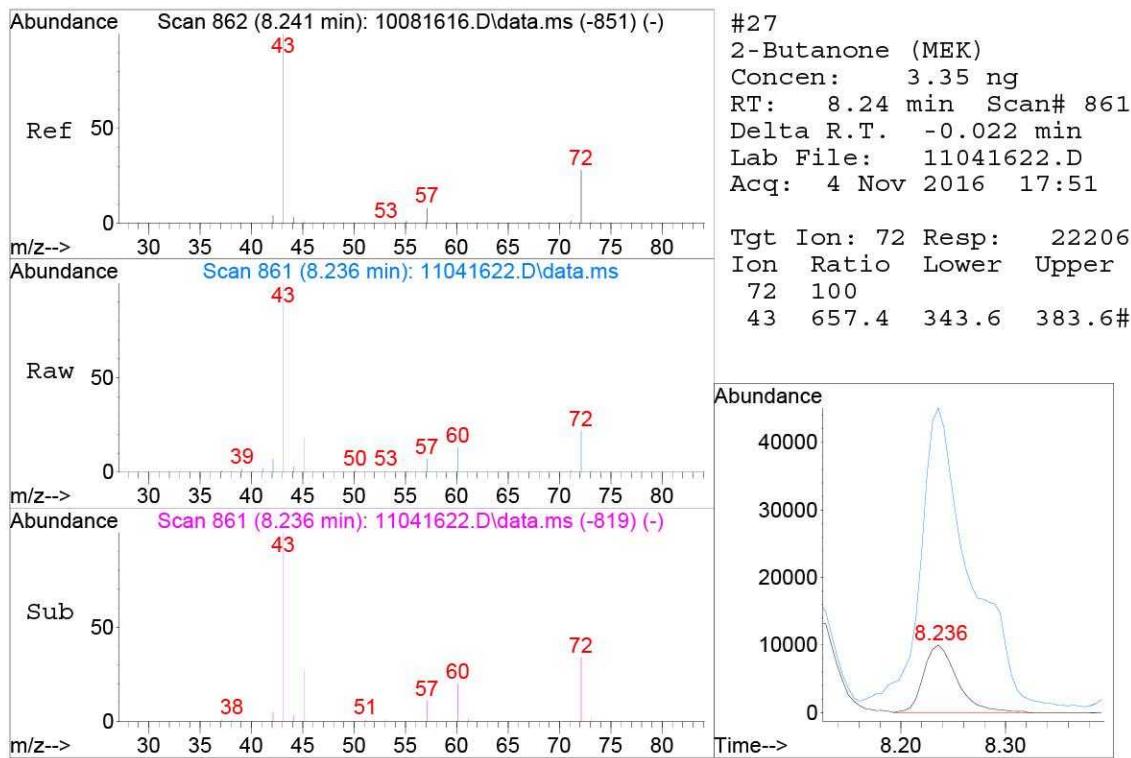
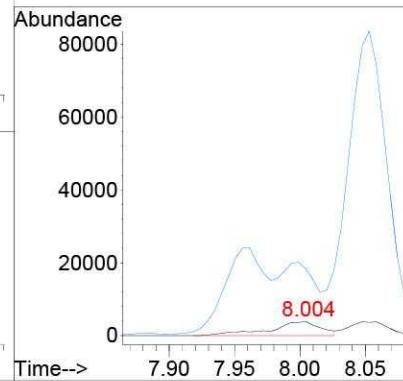
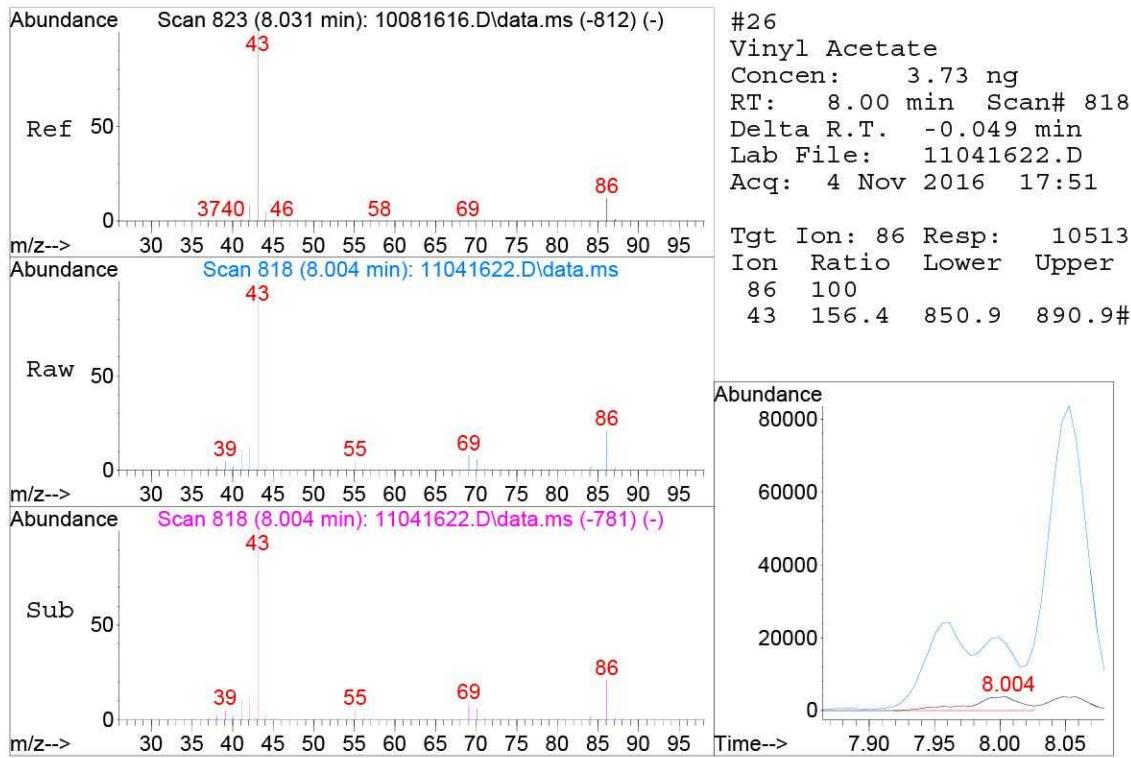
Tgt Ion: 85 Resp: 34451
Ion Ratio Lower Upper
85 100
87 32.7 12.8 52.8
101 9.3 0.0 29.7
103 6.0 0.0 26.4

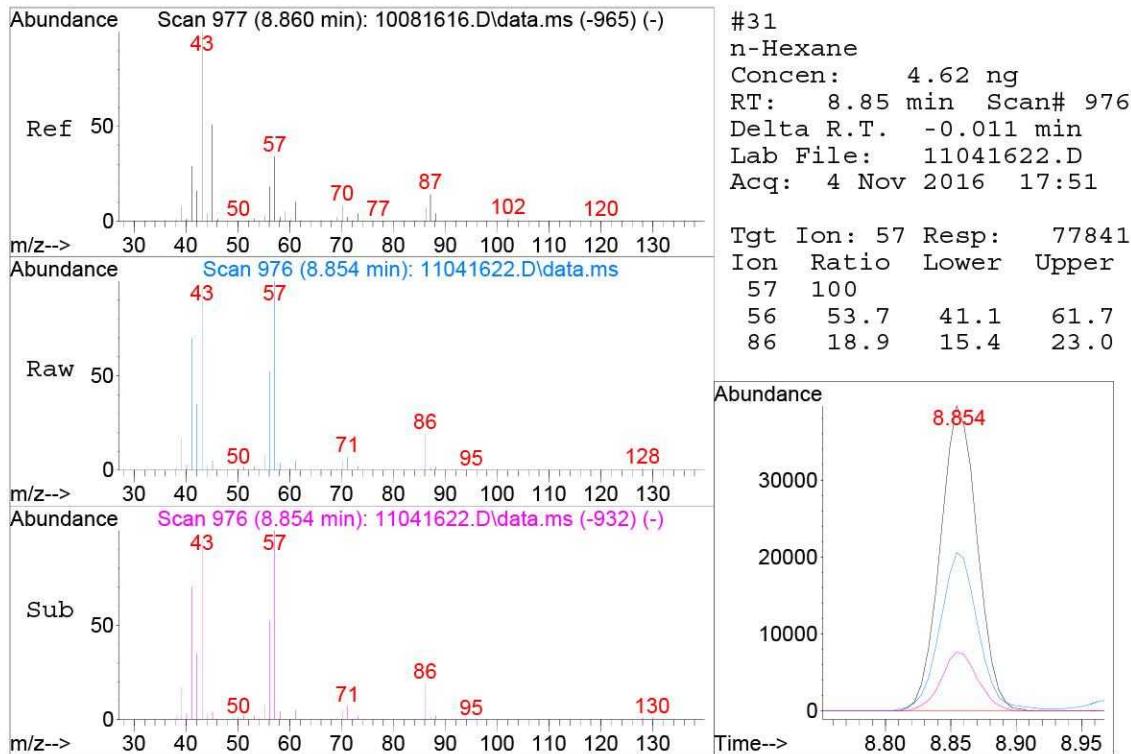
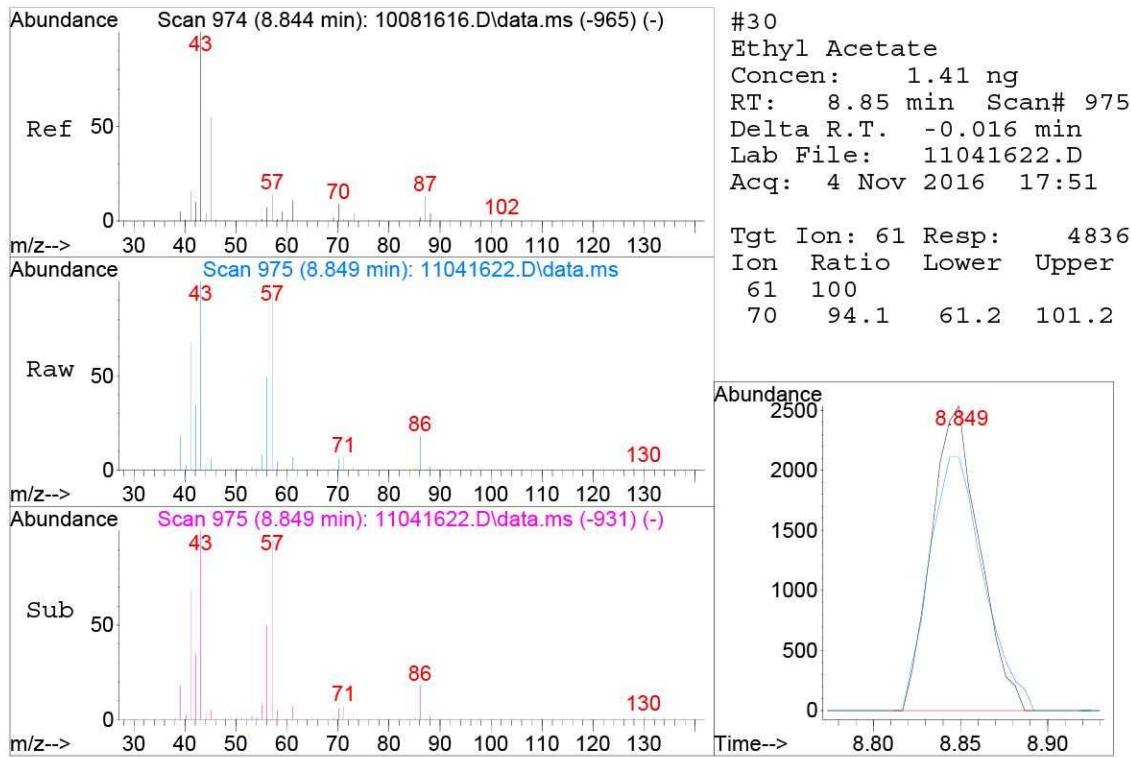


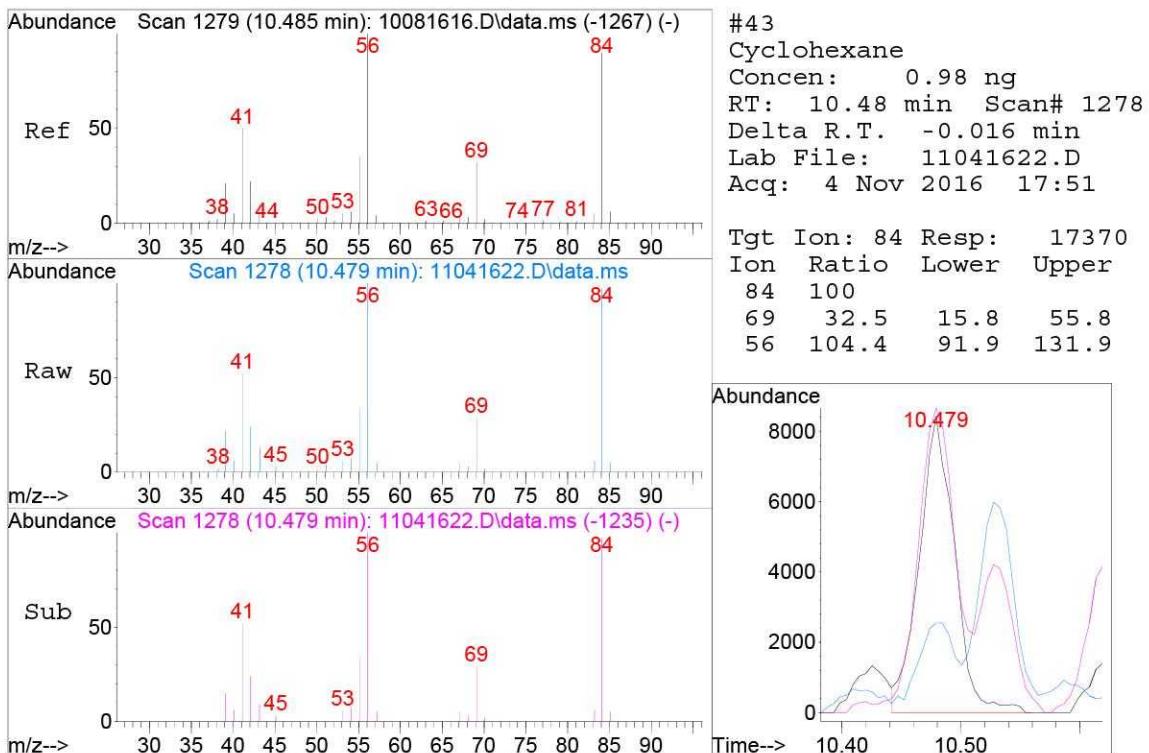
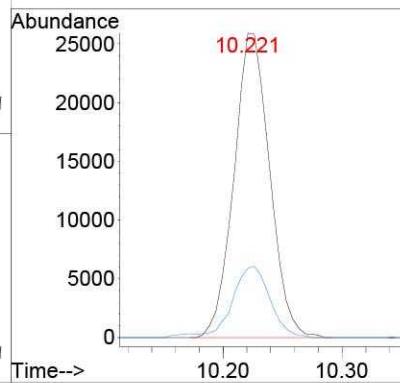
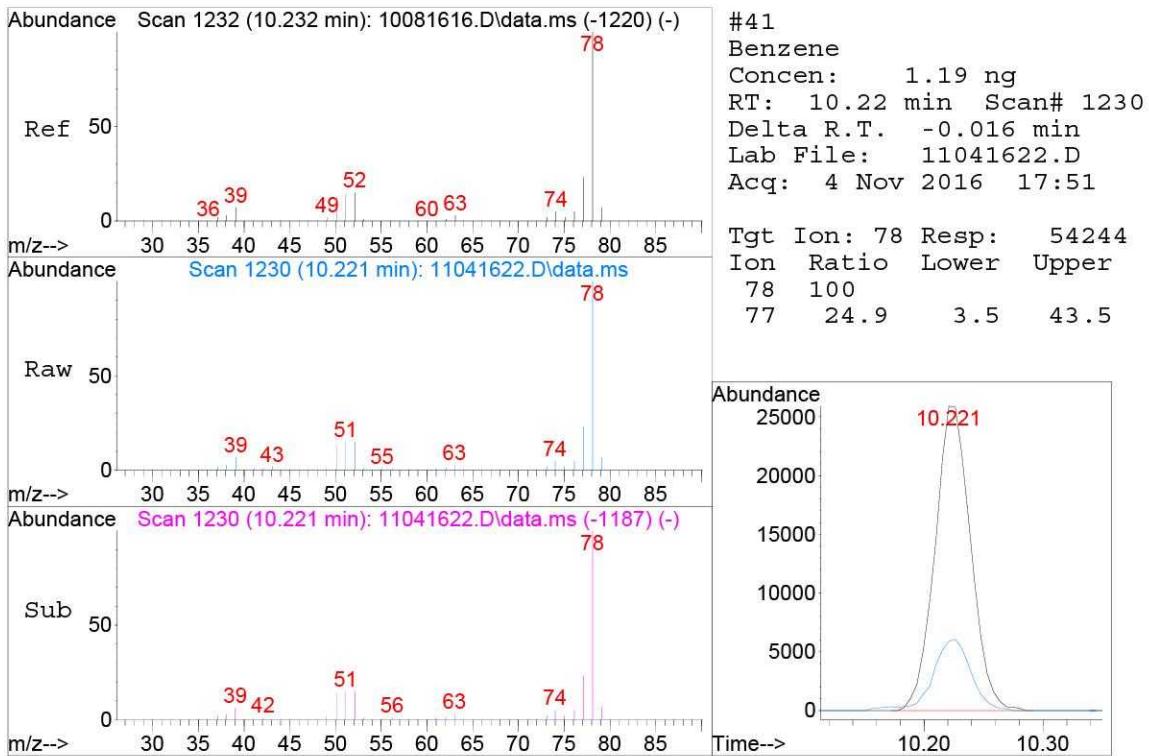


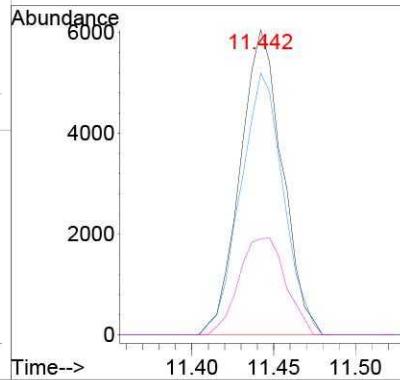
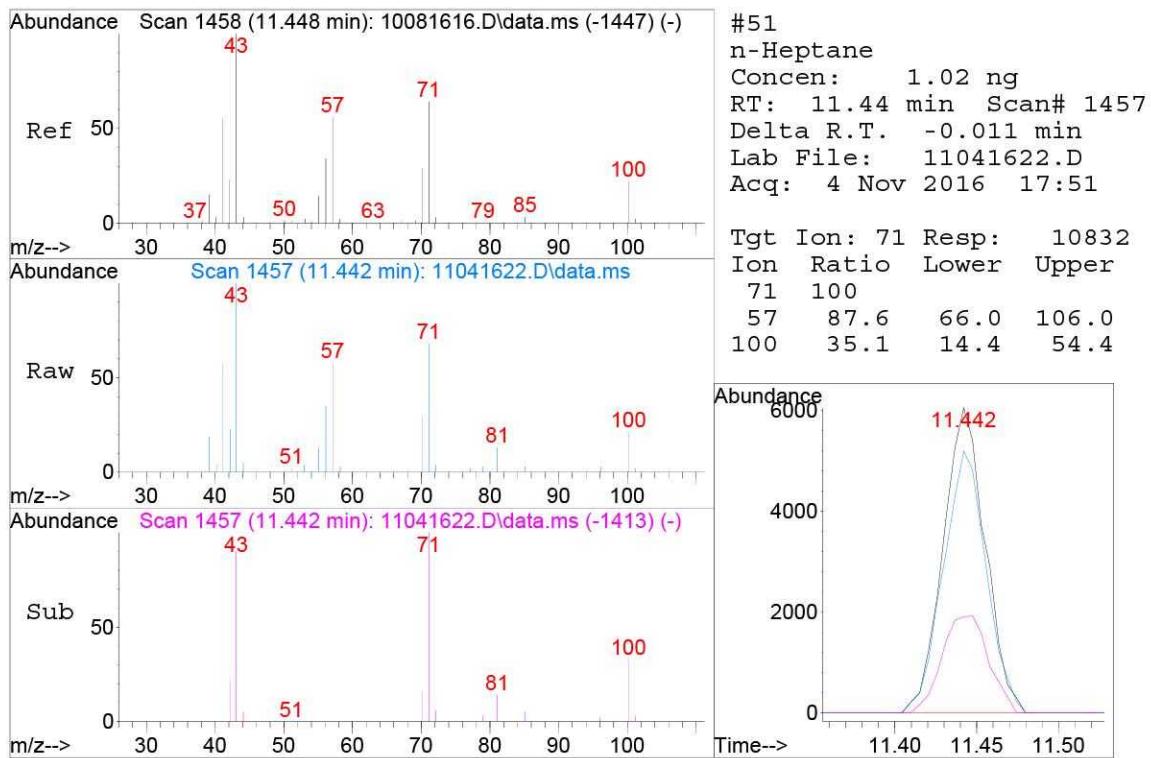
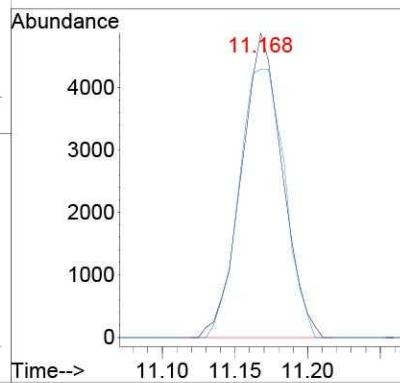
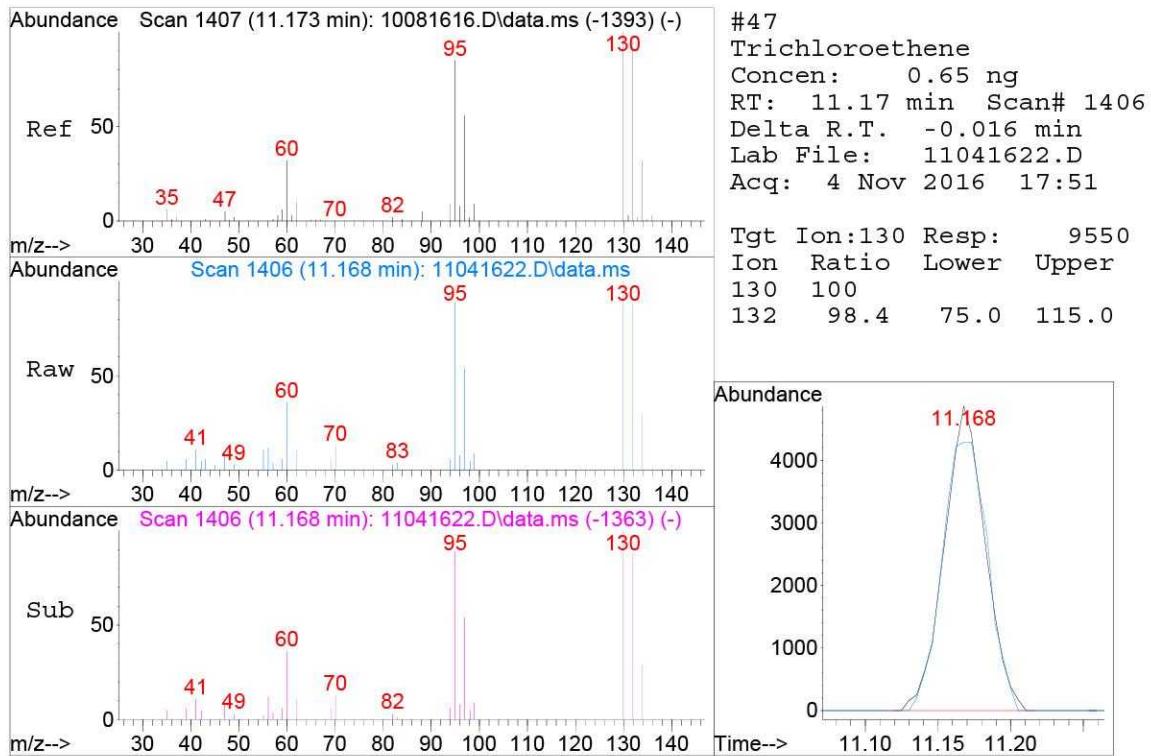


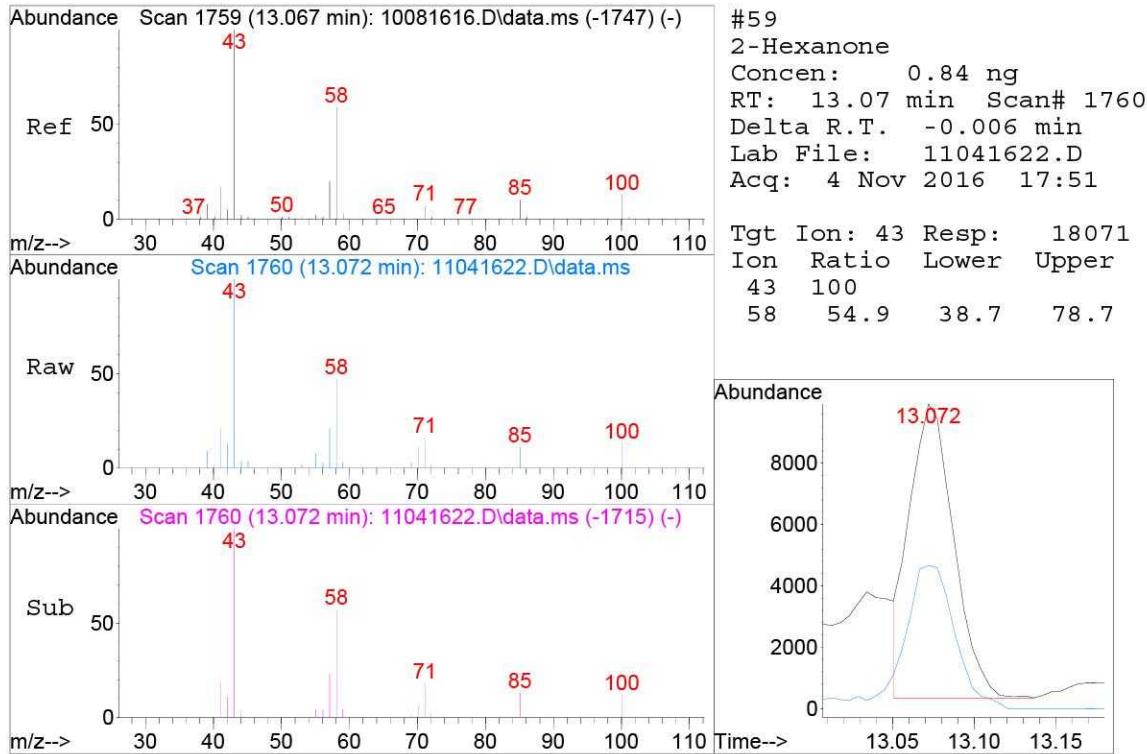
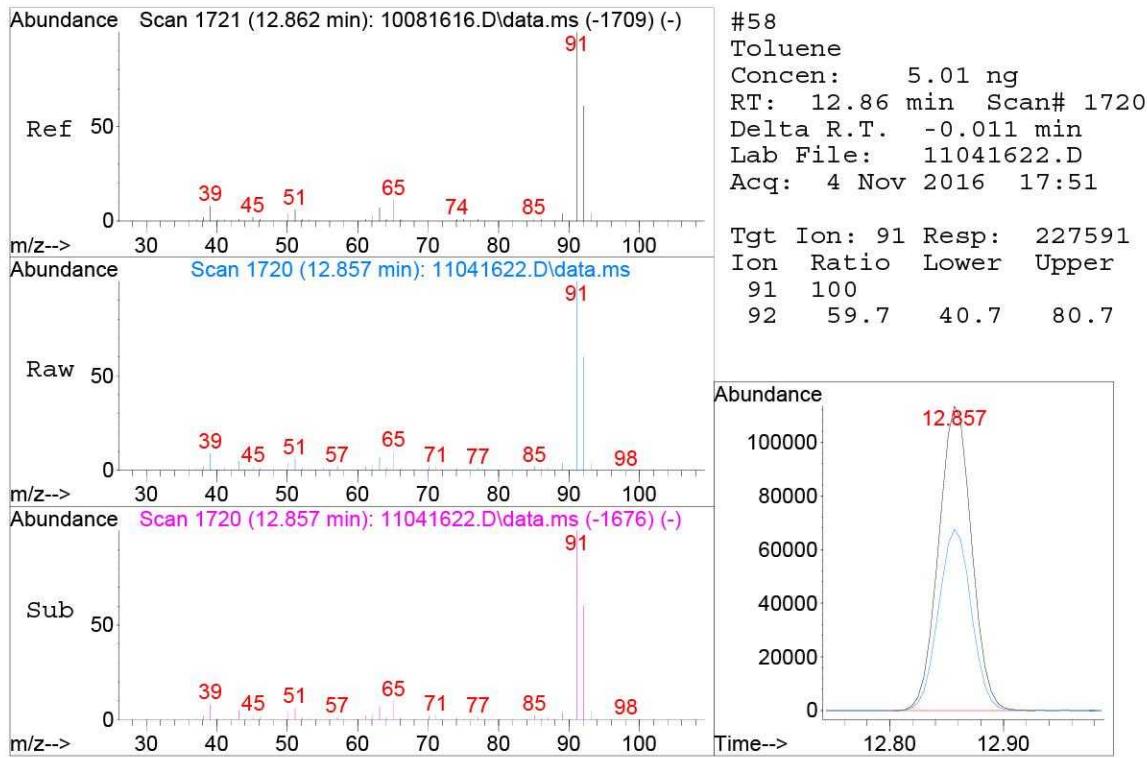


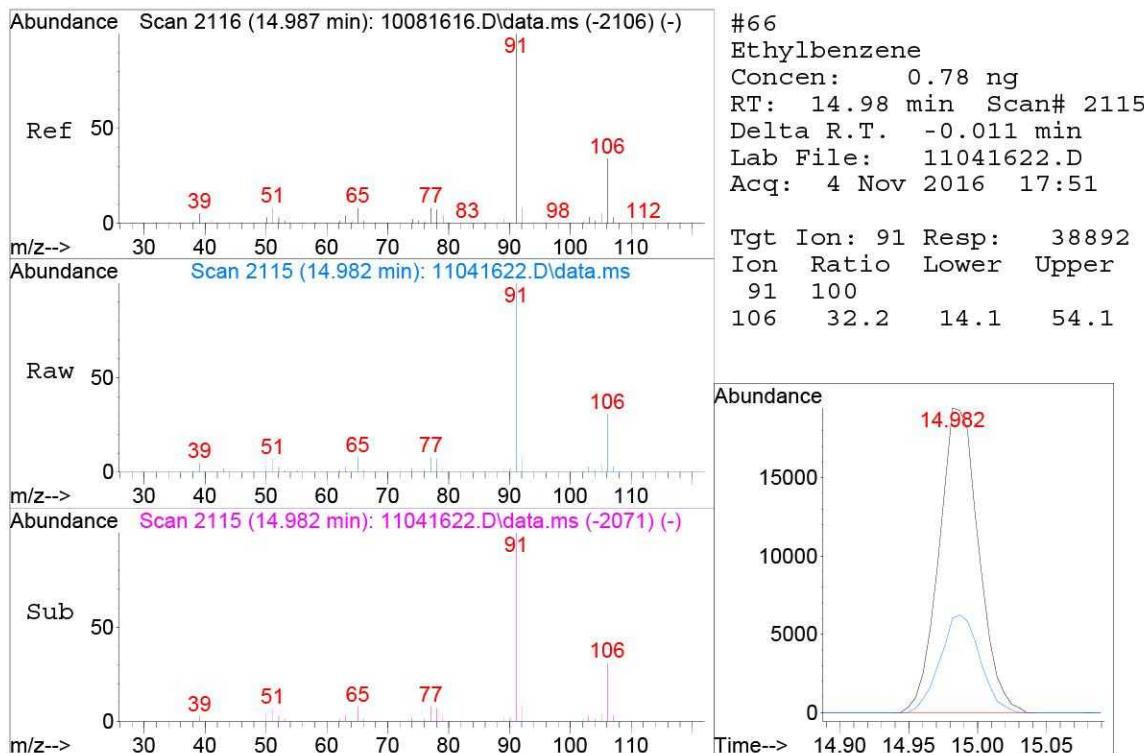
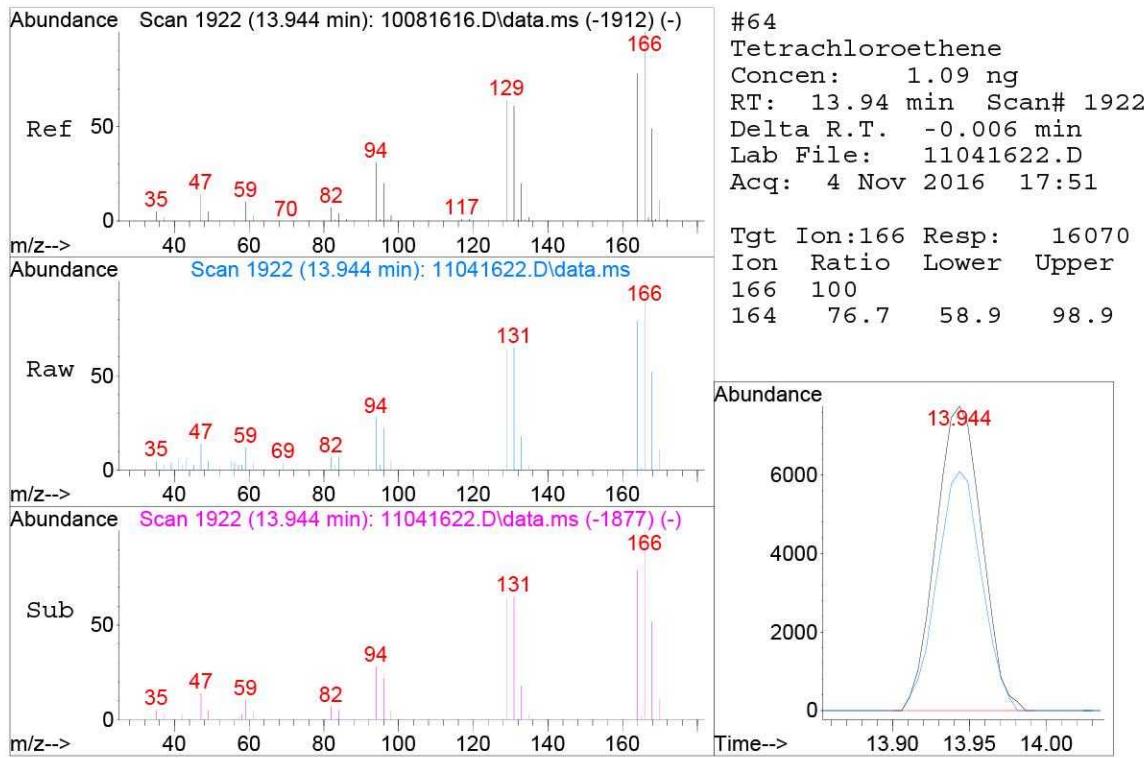


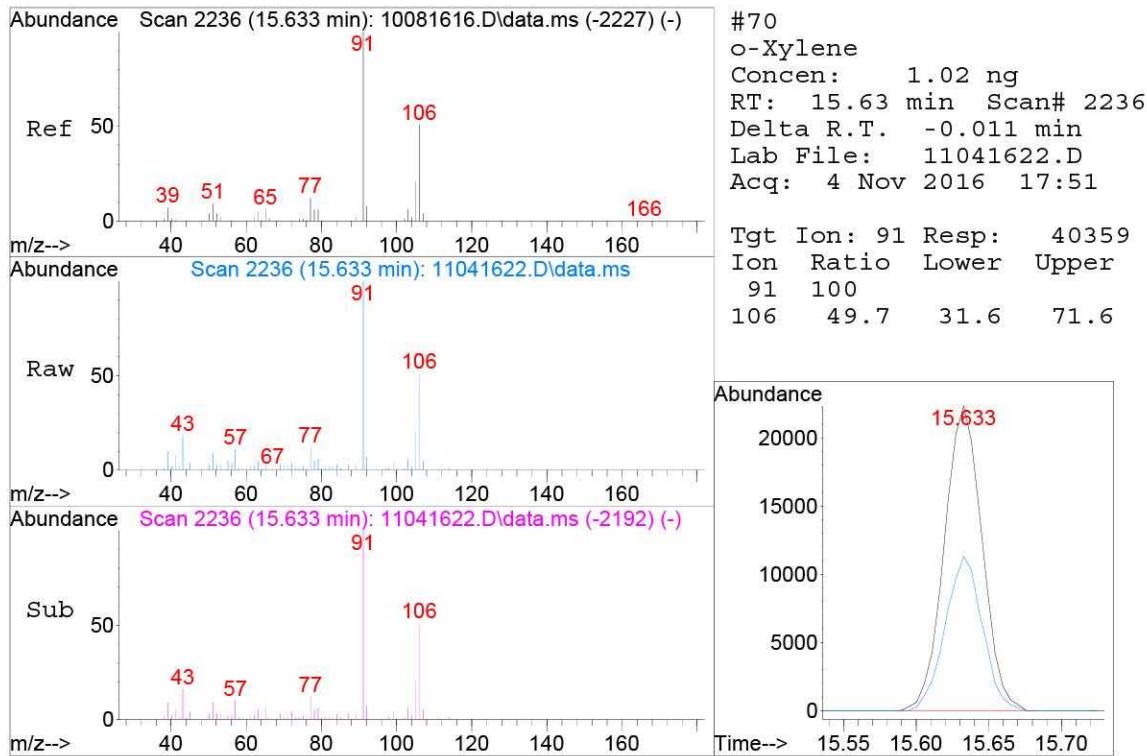
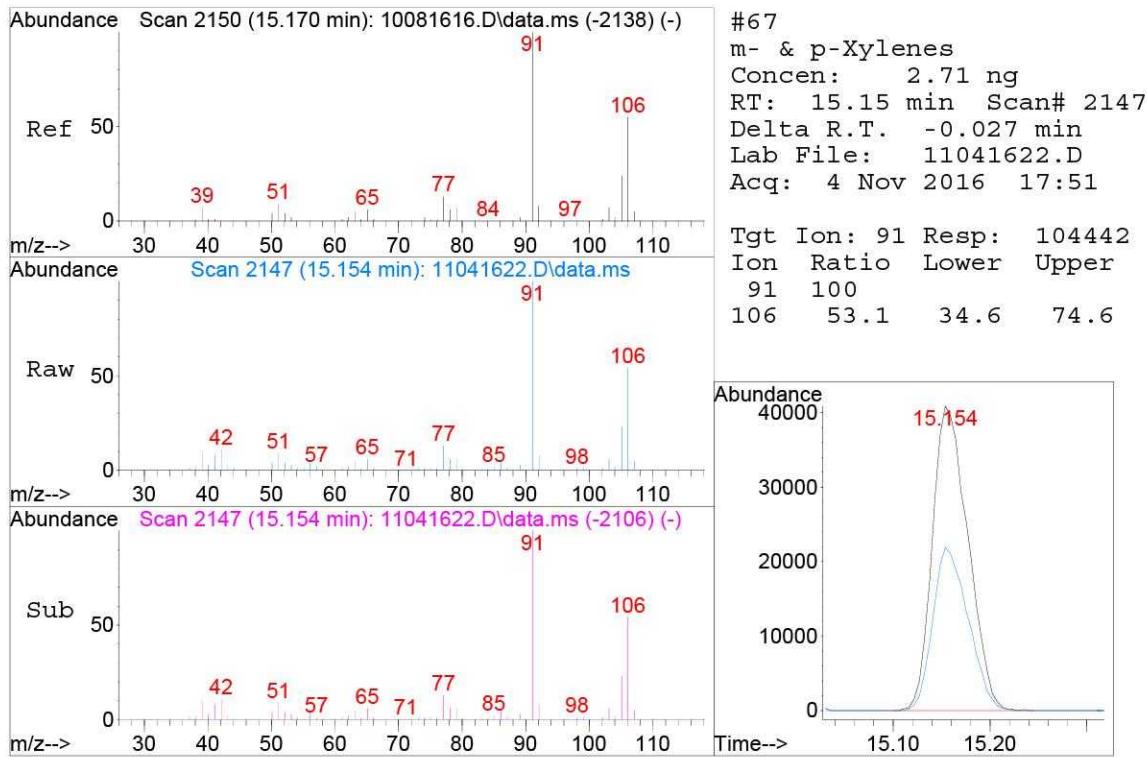


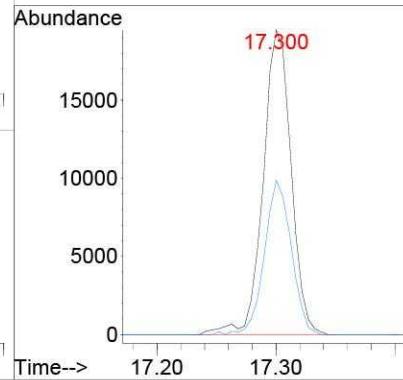
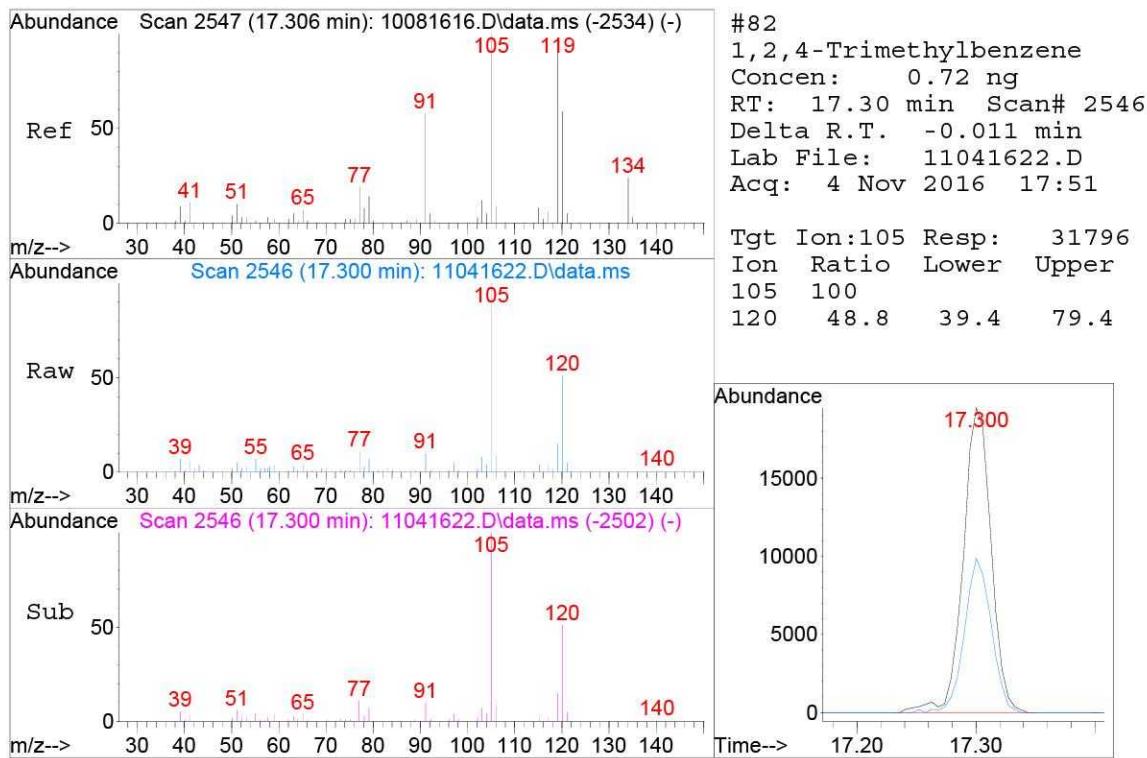
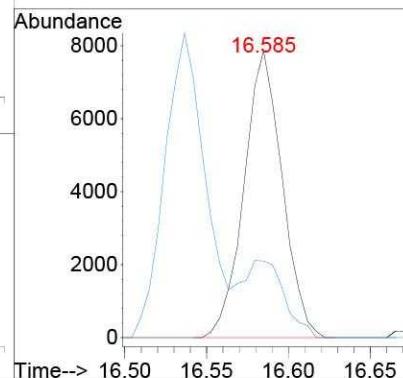
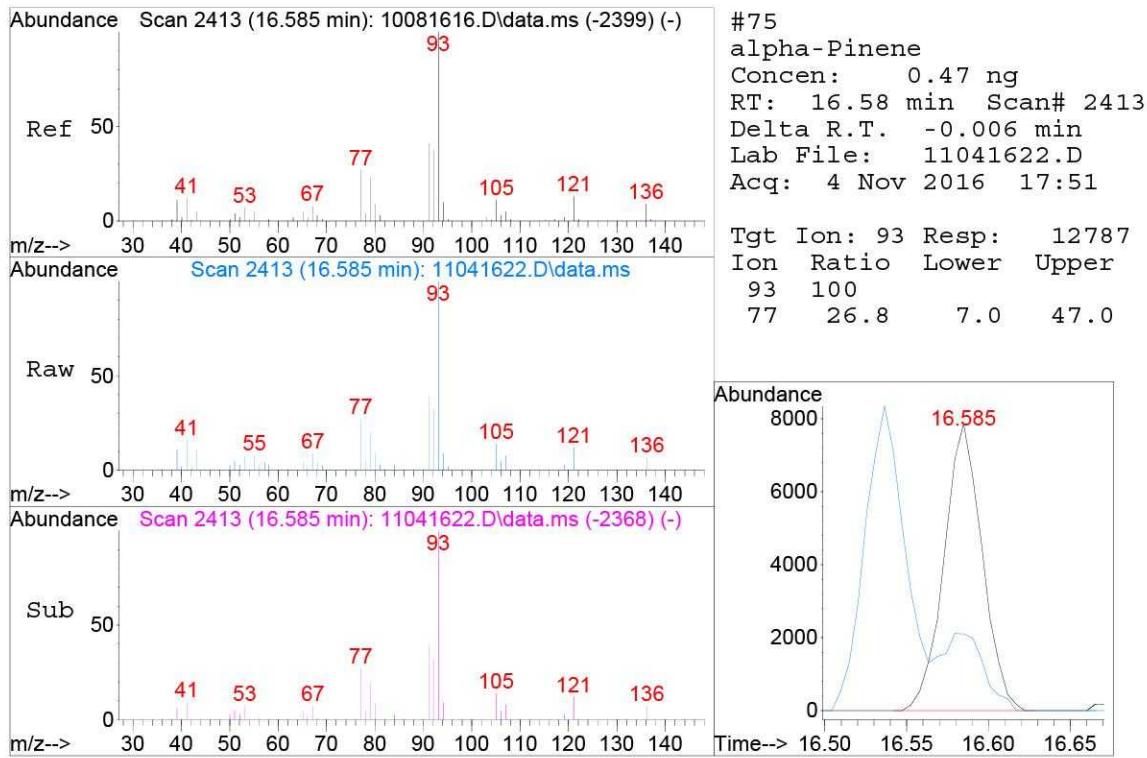








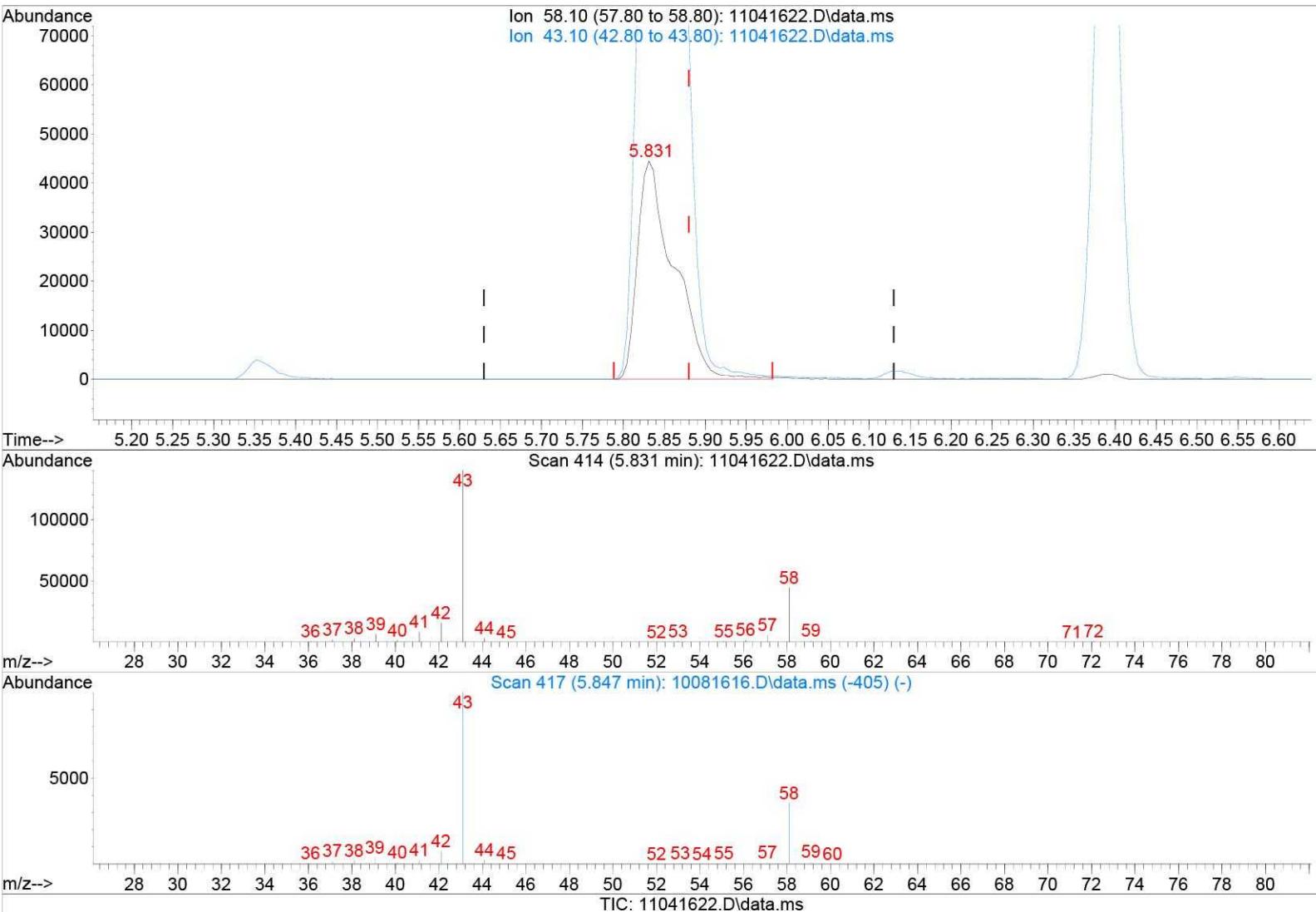




Data File: I:\MS08\Data\2016_11\04\11041622.D
 Acq On : 4 Nov 2016 17:51
 Sample : P1605059-003 (1000mL)
 Misc : S29-10041602
 ALS Vial : 9 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 05 08:38:48 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M



(13) Acetone (T)

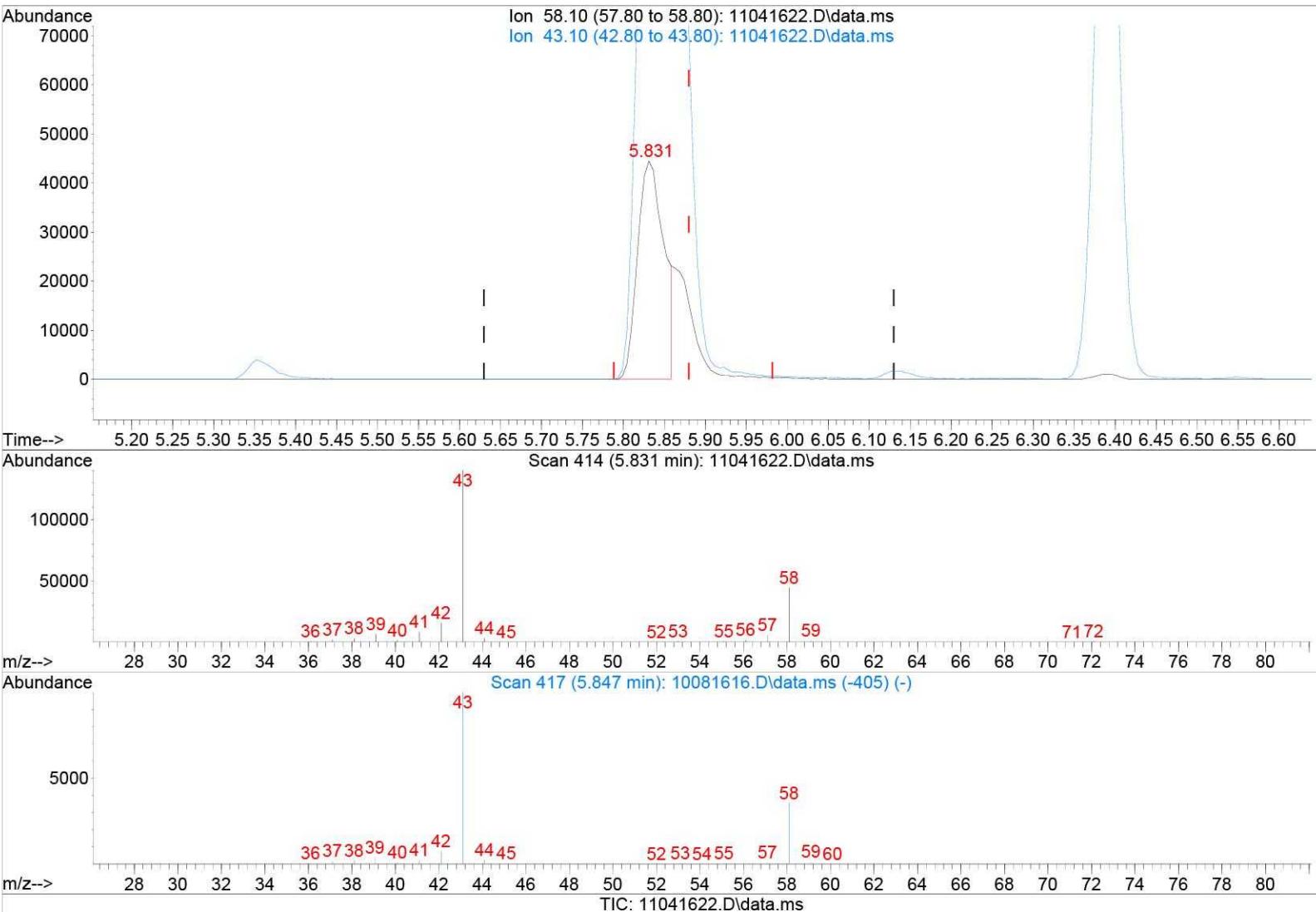
5.831min (-0.049) 16.11ng

response 137755

Ion	Exp%	Act%
58.10	100	100
43.10	285.50	206.49#
0.00	0.00	0.00
0.00	0.00	0.00

Data File: I:\MS08\Data\2016_11\04\11041622.D
 Acq On : 4 Nov 2016 17:51
 Sample : P1605059-003 (1000mL)
 Misc : S29-10041602
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 05 08:38:48 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M



(13) Acetone (T)

5.831min (-0.049) 11.66ng m

response 99674

Ion	Exp%	Act%
58.10	100	100
43.10	285.50	285.39
0.00	0.00	0.00
0.00	0.00	0.00

Data File: I:\MS08\Data\2016_11\04\11041623.D
 Acq On : 4 Nov 2016 18:23
 Sample : P1605059-004 (1000mL)
 Misc : S29-10041602
 ALS Vial : 6 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 07 15:49:24 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane (IS1)	8.78	130	109169	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	10.53	114	523629	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.56	82	209729	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.47	65	139945	12.799	ng	-0.03
Spiked Amount	12.500	Range	70 - 130	Recovery	=	102.40%
57) Toluene-d8 (SS2)	12.77	98	538135	12.896	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	103.20%
73) Bromofluorobenzene (SS3)	16.07	174	212245	12.310	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	98.48%

Target Compounds

						Qvalue
2) Propene	3.89	42	8764	0.845	ng	# 59
3) Dichlorodifluoromethan...	3.99	85	33448	2.035	ng	99
4) Chloromethane	4.20	50	1796	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	4.35	135	970	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	4.65	54	519	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.35	45	51884	7.521	ng	99
11) Acetonitrile	5.58	41	3355	N.D.		
12) Acrolein	5.72	56	2245	N.D.		
13) Acetone	5.84	58	48176	6.278	ng	# 1
14) Trichlorofluoromethane	6.01	101	15345	1.031	ng	99
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D. d		
16) Acrylonitrile	6.39	53	3440	N.D.		
17) 1,1-Dichloroethene	6.65	96	8054	0.914	ng	100
18) 2-Methyl-2-Propanol (t...	6.75	59	2100	N.D.		
19) Methylene Chloride	6.78	84	2081	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D. d		
21) Trichlorotrifluoroethane	7.06	151	3892	N.D.		
22) Carbon Disulfide	7.04	76	5281	N.D.		
23) trans-1,2-Dichloroethene	7.88	61	841	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D. d		
27) 2-Butanone (MEK)	8.24	72	7978	1.340	ng	# 90
28) cis-1,2-Dichloroethene	8.64	61	1751	N.D.		
29) Diisopropyl Ether	8.85	87	827	N.D.		
30) Ethyl Acetate	8.85	61	4834	1.566	ng	93
31) n-Hexane	8.85	57	66232	4.377	ng	98
32) Chloroform	8.91	83	2371	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	9.58	62	524	N.D.		
38) 1,1,1-Trichloroethane	9.82	97	577	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D. d		
41) Benzene	10.22	78	49150	1.178	ng	97
42) Carbon Tetrachloride	10.36	117	4826	N.D.		
43) Cyclohexane	10.47	84	14512	0.894	ng	99
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	11.14	83	1688	N.D.		
47) Trichloroethene	11.17	130	8360	0.622	ng	94
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d		

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Data File: I:\MS08\Data\2016_11\04\11041623.D
 Acq On : 4 Nov 2016 18:23
 Sample : P1605059-004 (1000mL)
 Misc : S29-10041602
 ALS Vial : 6 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 07 15:49:24 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

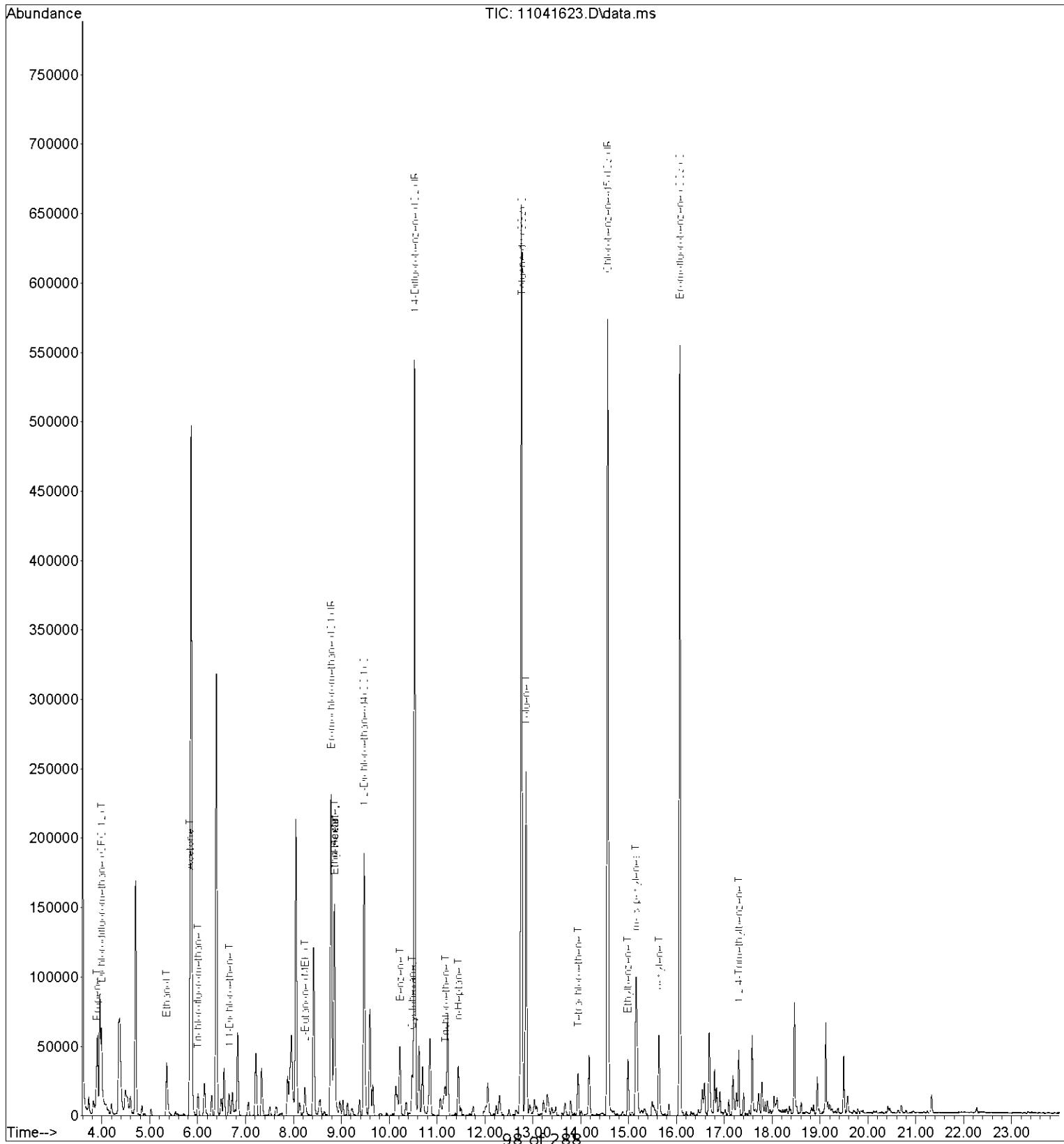
	Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
50)	Methyl Methacrylate	0.00	100	0	N.D.	d	
51)	n-Heptane	11.44	71	9920	1.017	ng	99
52)	cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53)	4-Methyl-2-pentanone	11.97	58	954	N.D.		
54)	trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55)	1,1,2-Trichloroethane	0.00	97	0	N.D.		
58)	Toluene	12.86	91	207204	5.059	ng	99
59)	2-Hexanone	13.08	43	4400	N.D.		
60)	Dibromochloromethane	0.00	129	0	N.D.		
61)	1,2-Dibromoethane	0.00	107	0	N.D.		
62)	n-Butyl Acetate	13.67	43	8146	N.D.		
63)	n-Octane	13.79	57	2244	N.D.		
64)	Tetrachloroethene	13.94	166	12714	0.959	ng	99
65)	Chlorobenzene	14.61	112	643	N.D.		
66)	Ethylbenzene	14.99	91	36279	0.803	ng	100
67)	m- & p-Xylenes	15.15	91	92513	2.664	ng	99
68)	Bromoform	0.00	173	0	N.D.		
69)	Styrene	15.53	104	4894	N.D.		
70)	o-Xylene	15.63	91	35979	1.008	ng	99
71)	n-Nonane	15.84	43	3811	N.D.		
72)	1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74)	Cumene	16.20	105	1992	N.D.		
75)	alpha-Pinene	16.58	93	10899	N.D.		
76)	n-Propylbenzene	16.70	91	7910	N.D.		
77)	3-Ethyltoluene	16.79	105	20175	N.D.		
78)	4-Ethyltoluene	16.84	105	7954	N.D.		
79)	1,3,5-Trimethylbenzene	16.91	105	7344	N.D.		
80)	alpha-Methylstyrene	0.00	118	0	N.D.		
81)	2-Ethyltoluene	17.09	105	8456	N.D.		
82)	1,2,4-Trimethylbenzene	17.30	105	26898	0.679	ng	90
83)	n-Decane	17.40	57	5620	N.D.		
84)	Benzyl Chloride	17.31	91	2562	N.D.		
85)	1,3-Dichlorobenzene	17.52	146	1484	N.D.		
86)	1,4-Dichlorobenzene	17.52	146	1484	N.D.		
87)	sec-Butylbenzene	17.56	105	681	N.D.		
88)	4-Isopropyltoluene (p-...)	17.71	119	3162	N.D.		
89)	1,2,3-Trimethylbenzene	17.71	105	7242	N.D.		
90)	1,2-Dichlorobenzene	17.84	146	768	N.D.		
91)	d-Limonene	17.85	68	1908	N.D.		
92)	1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93)	n-Undecane	18.60	57	2804	N.D.		
94)	1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95)	Naphthalene	19.57	128	7849	N.D.		
96)	n-Dodecane	19.58	57	2189	N.D.		
97)	Hexachlorobutadiene	0.00	225	0	N.D.		
98)	Cyclohexanone	15.32	55	2146	N.D.		
99)	tert-Butylbenzene	17.31	119	3719	N.D.		
100)	n-Butylbenzene	18.11	91	2863	N.D.		

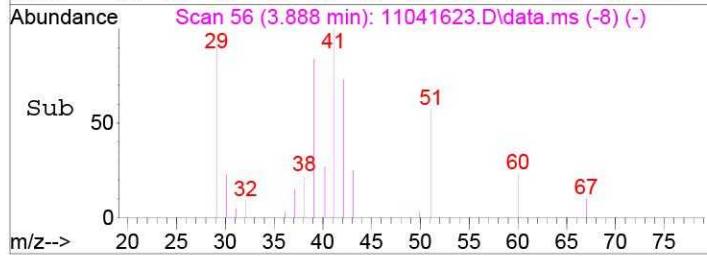
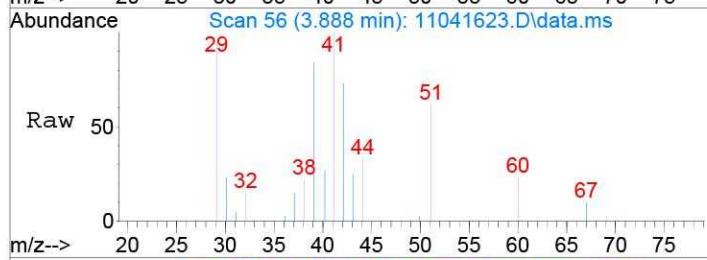
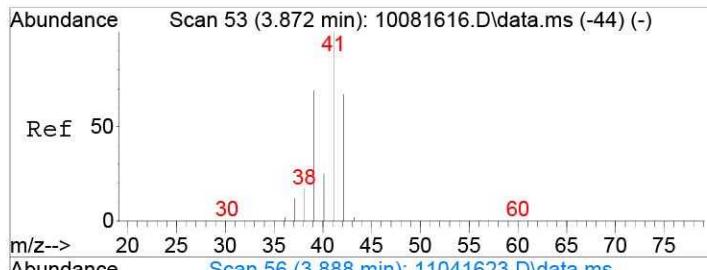
(#= qualifier out of range (m) = manual integration (+) = signals summed

Data File: I:\MS08\Data\2016_11\04\11041623.D
Acq On : 4 Nov 2016 18:23
Sample : P1605059-004 (1000mL)
Misc : S29-10041602
ALS Vial : 6 Sample Multiplier: 1

Operator: WA

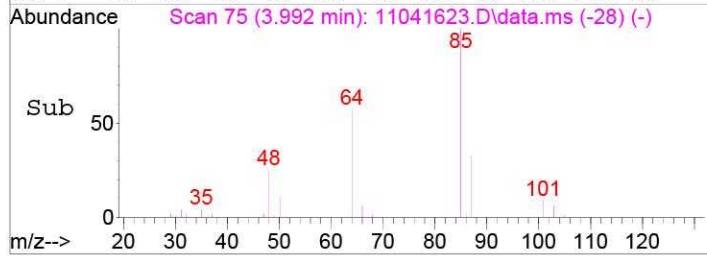
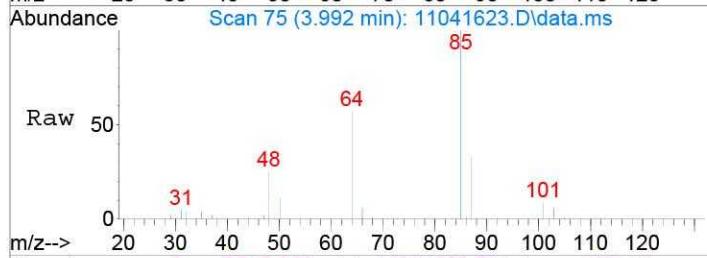
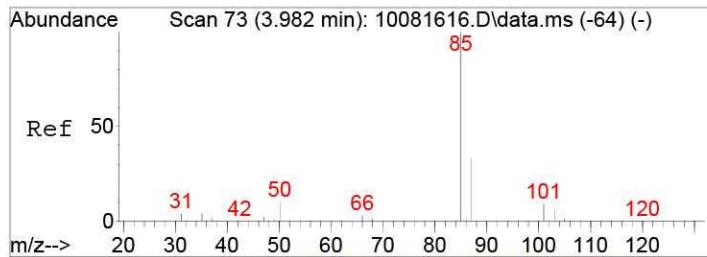
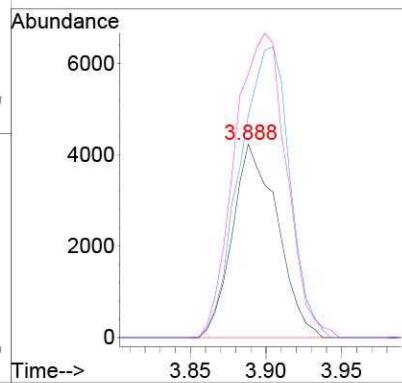
Quant Time: Nov 07 15:49:24 2016
Quant Method : I:\MS08\Methods\R8100816.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 12 15:54:53 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M





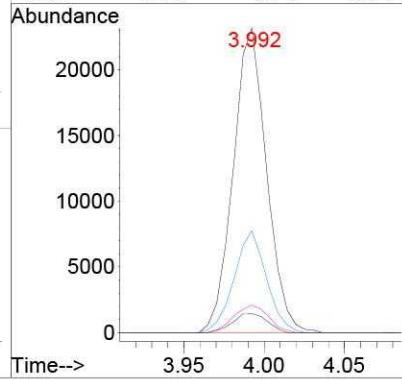
#2
Propene
Concen: 0.84 ng
RT: 3.89 min Scan# 56
Delta R.T. 0.010 min
Lab File: 11041623.D
Acq: 4 Nov 2016 18:23

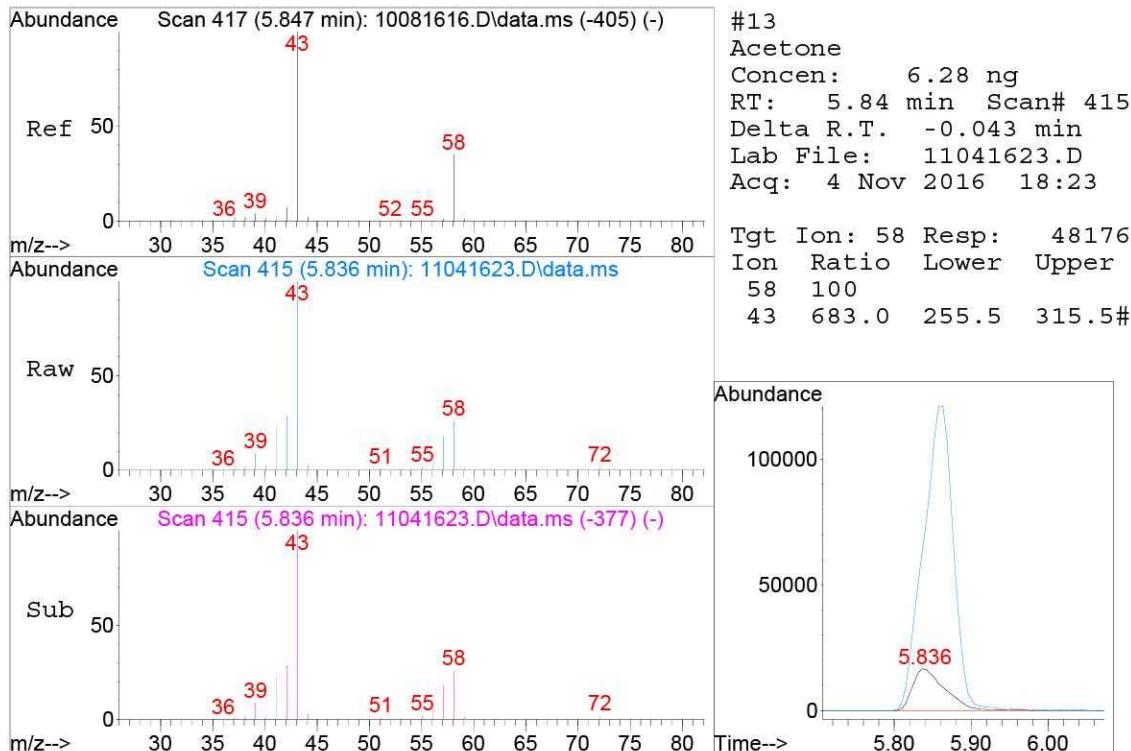
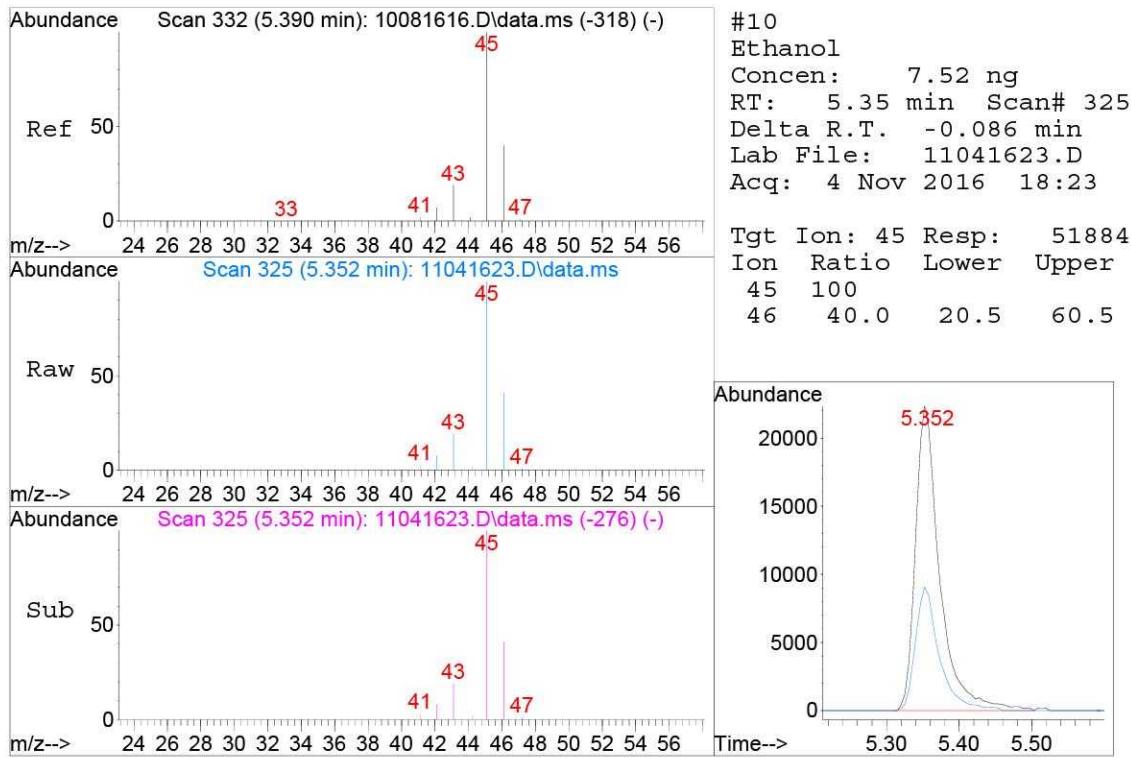
Tgt Ion: 42 Resp: 8764
Ion Ratio Lower Upper
42 100
39 166.9 83.4 123.4#
41 180.8 128.8 168.8#

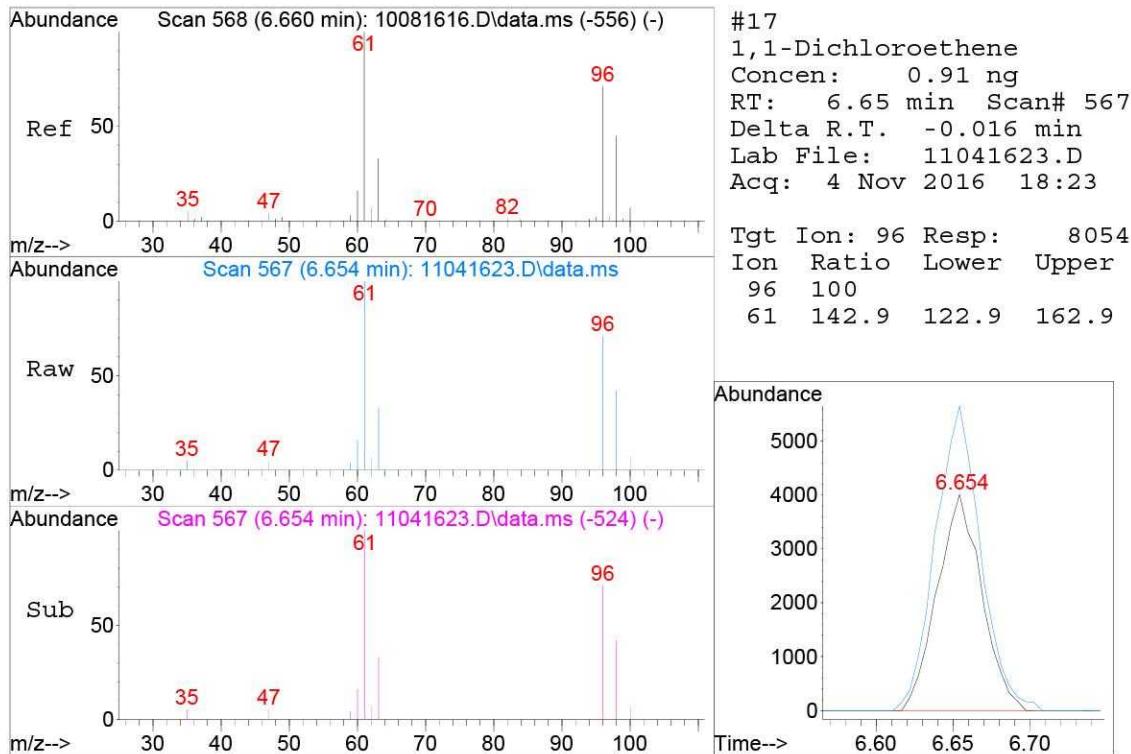
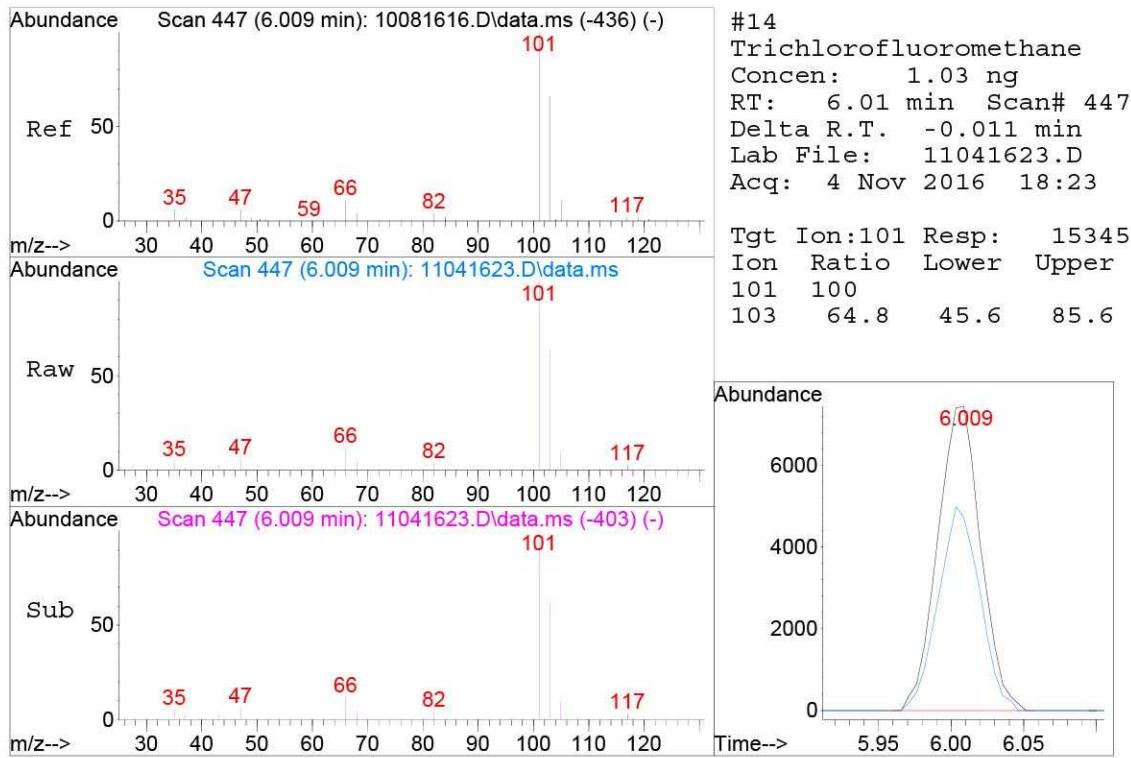


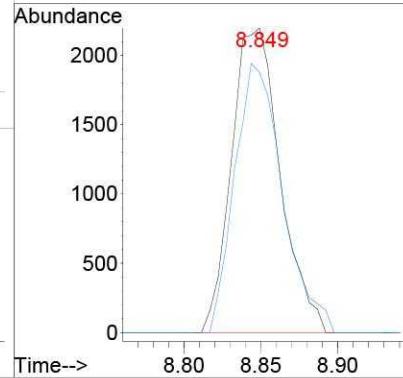
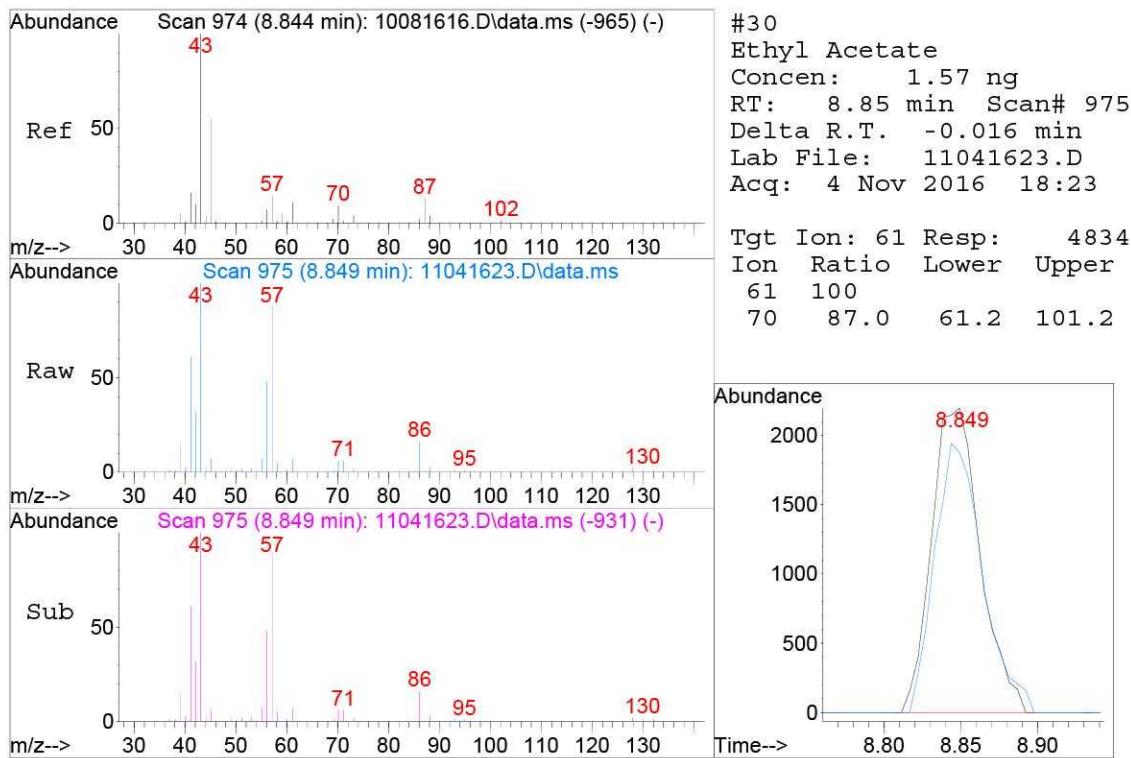
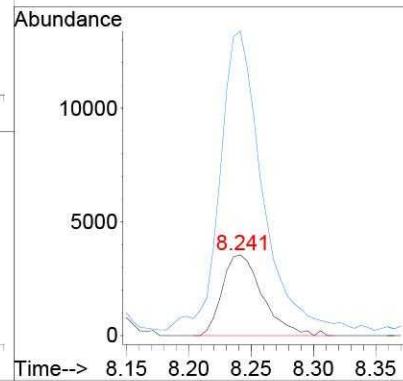
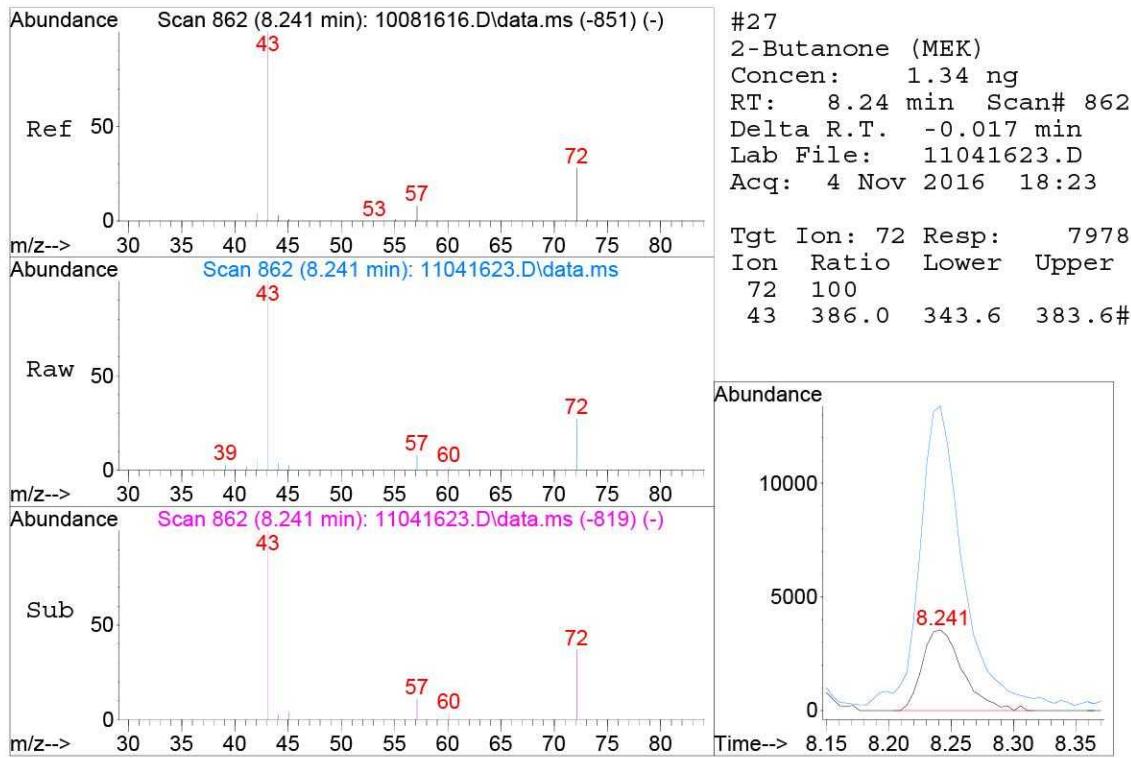
#3
Dichlorodifluoromethane (CFC 12)
Concen: 2.03 ng
RT: 3.99 min Scan# 75
Delta R.T. 0.005 min
Lab File: 11041623.D
Acq: 4 Nov 2016 18:23

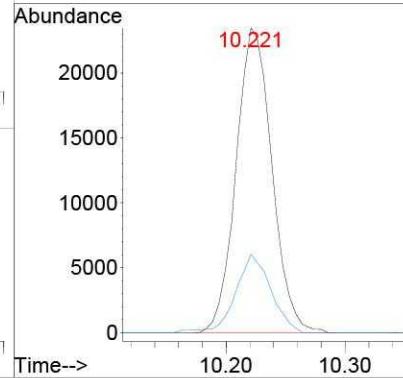
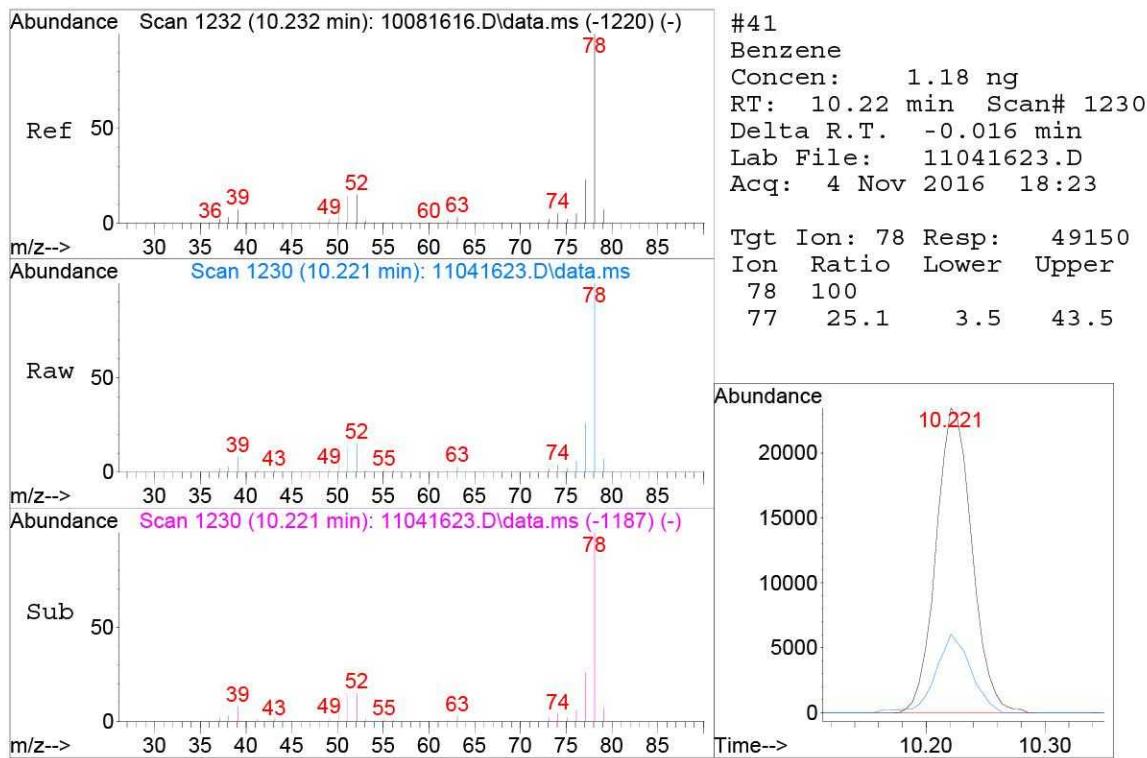
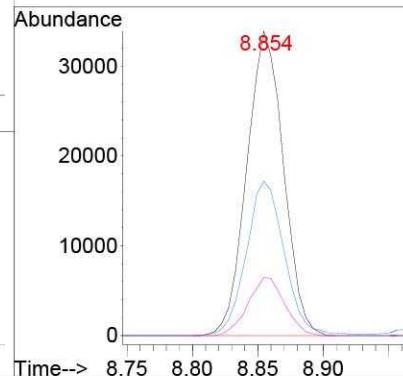
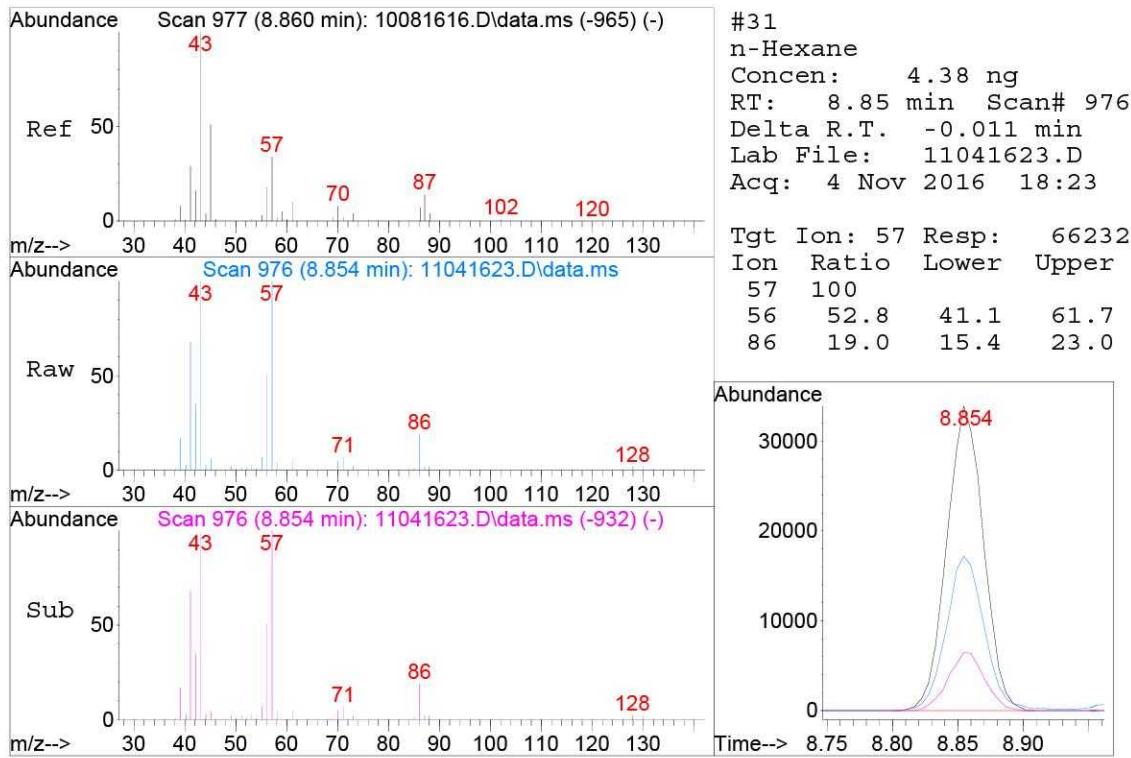
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Ion Ratio Lower Upper
85 100
87 32.3 12.8 52.8
101 9.3 0.0 29.7
103 6.4 0.0 26.4

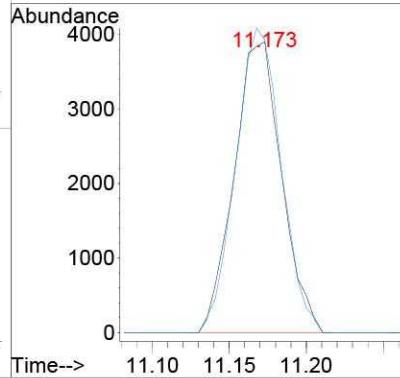
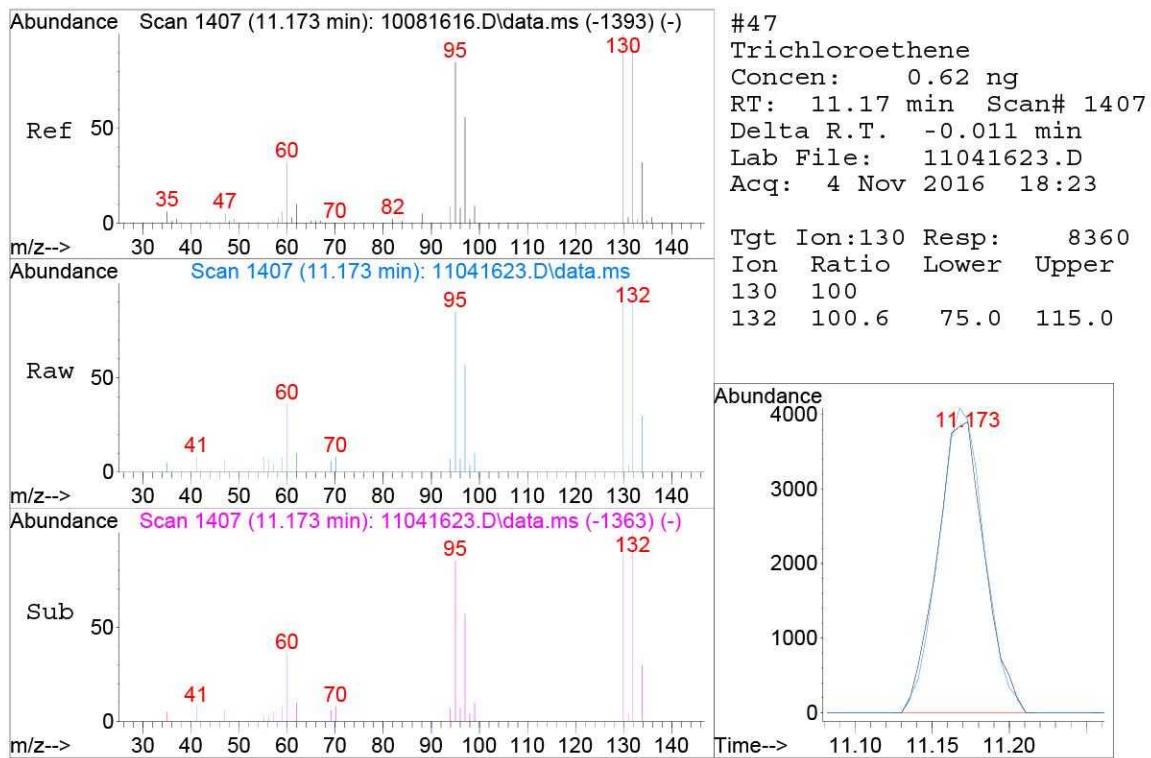
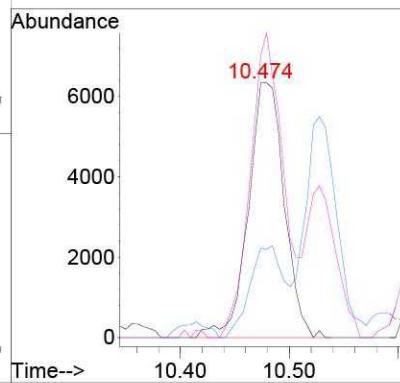
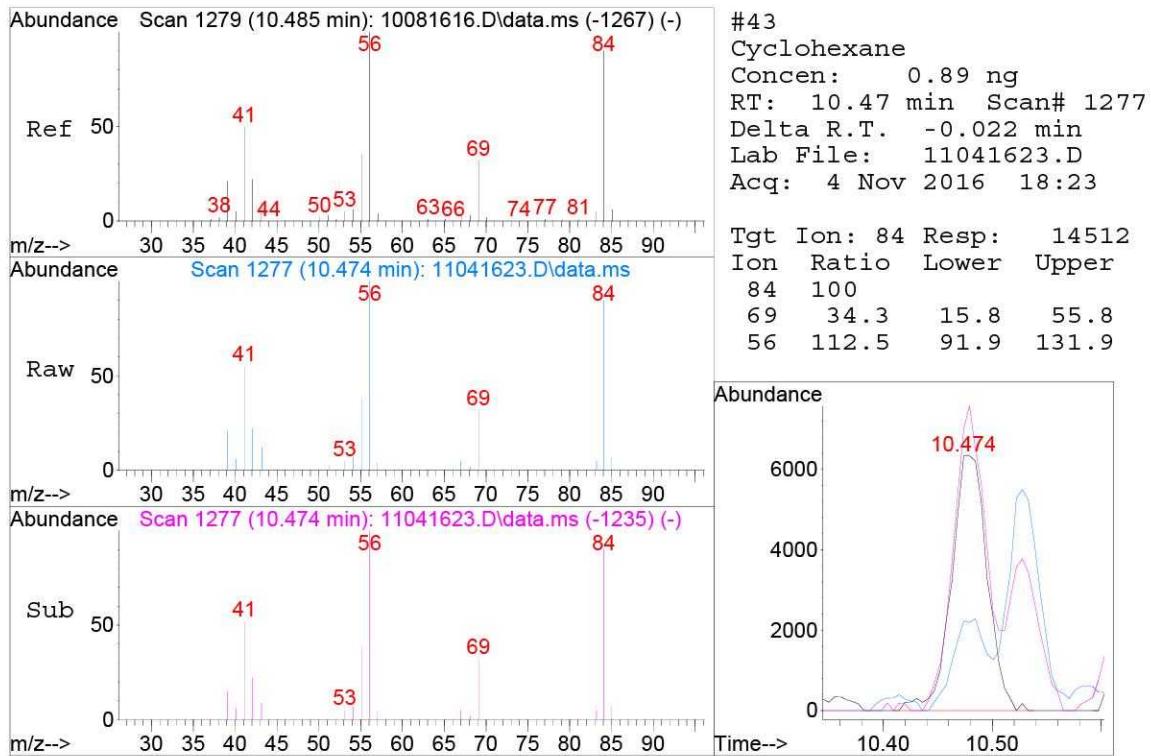


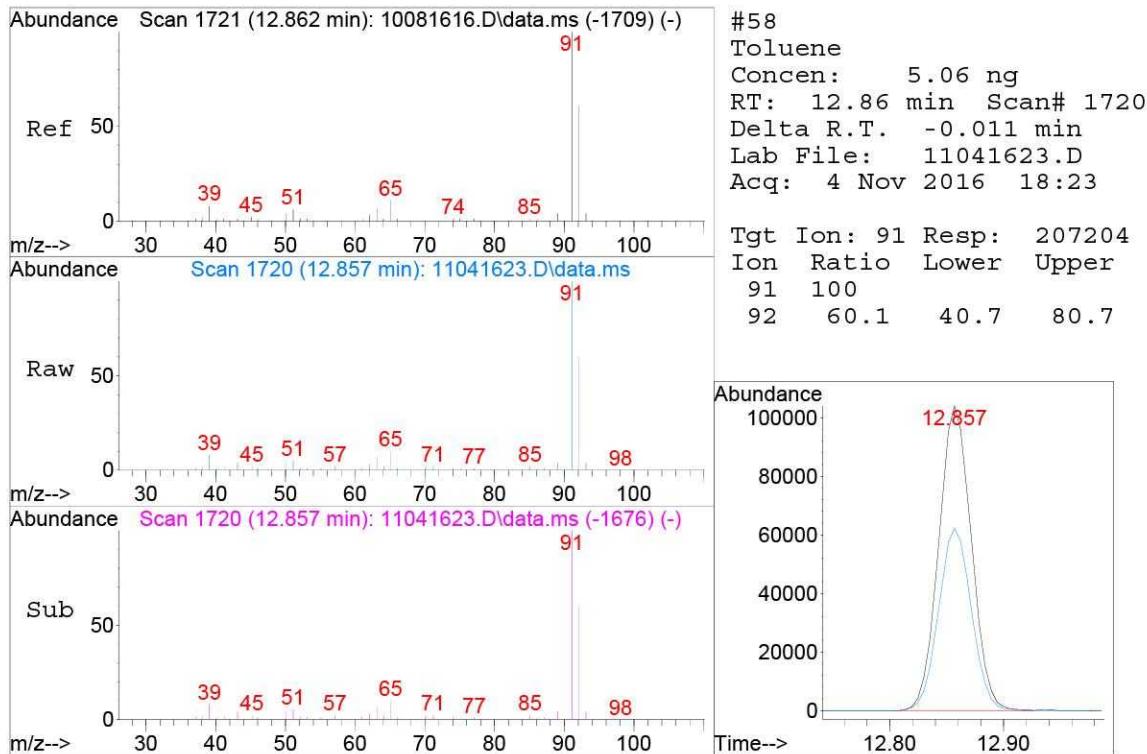
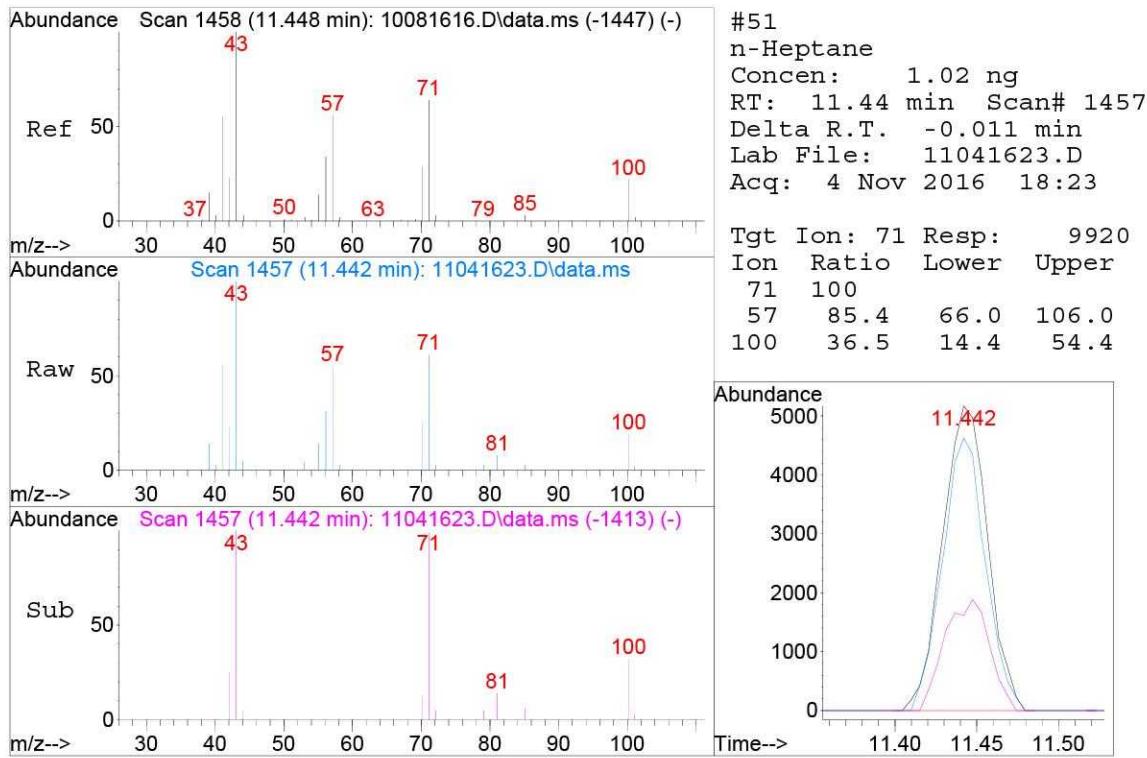


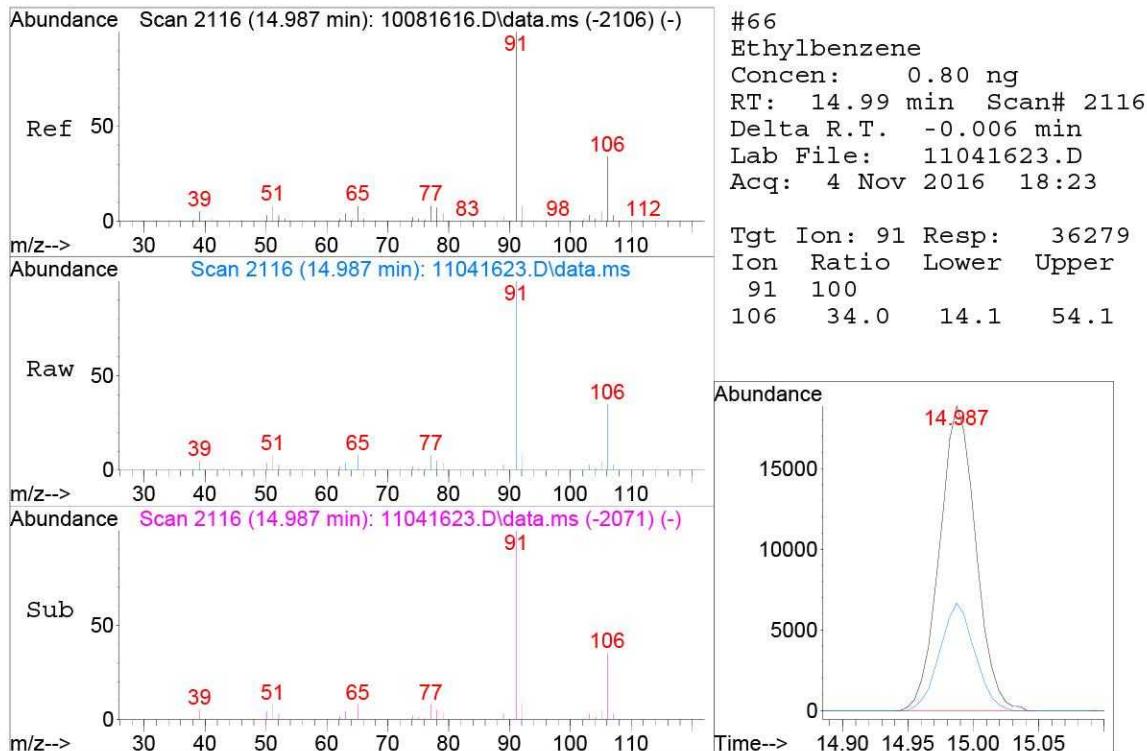
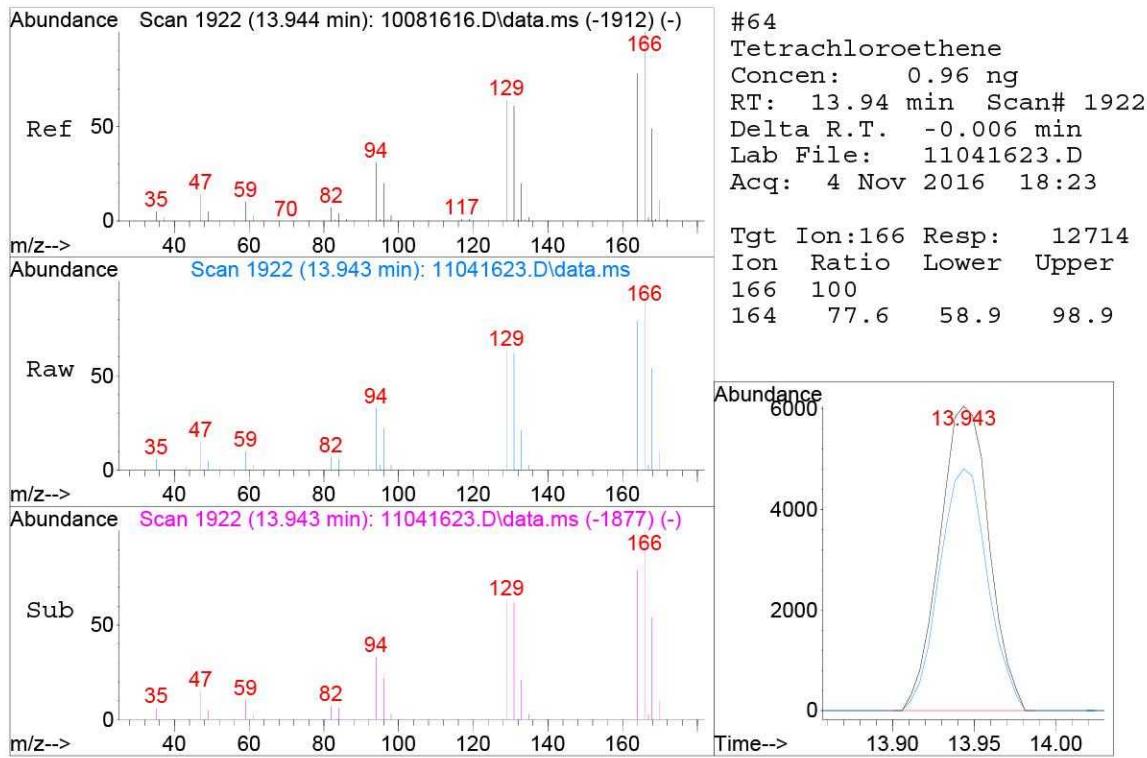


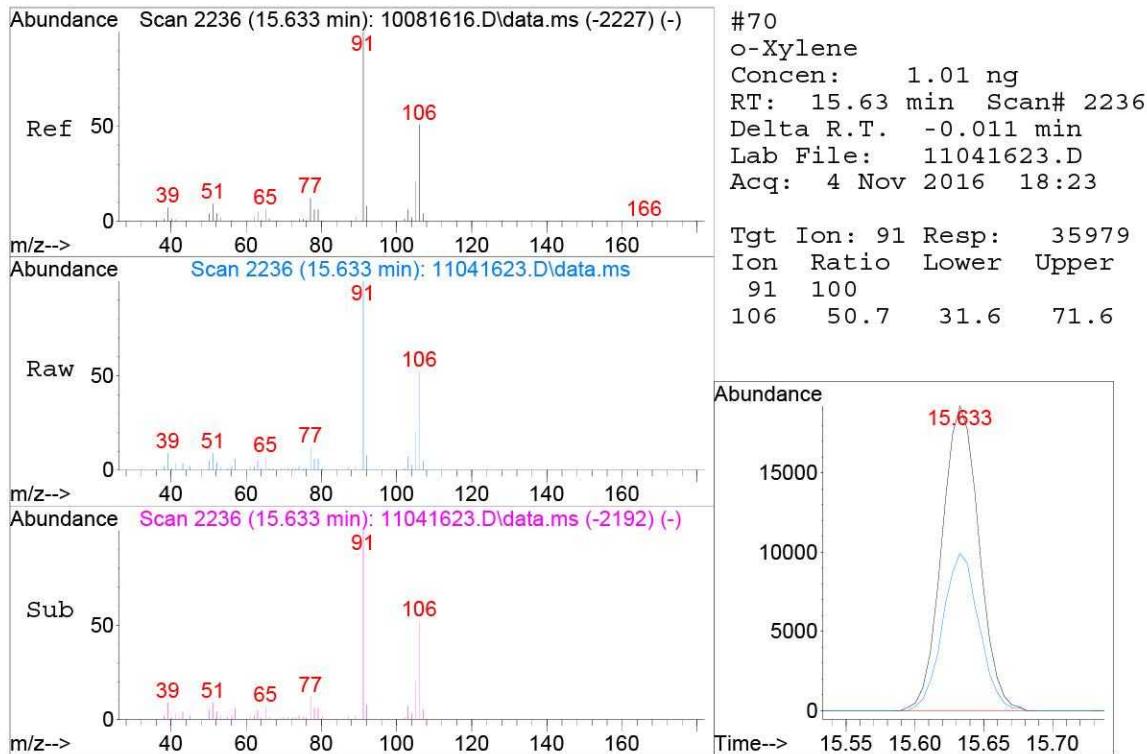
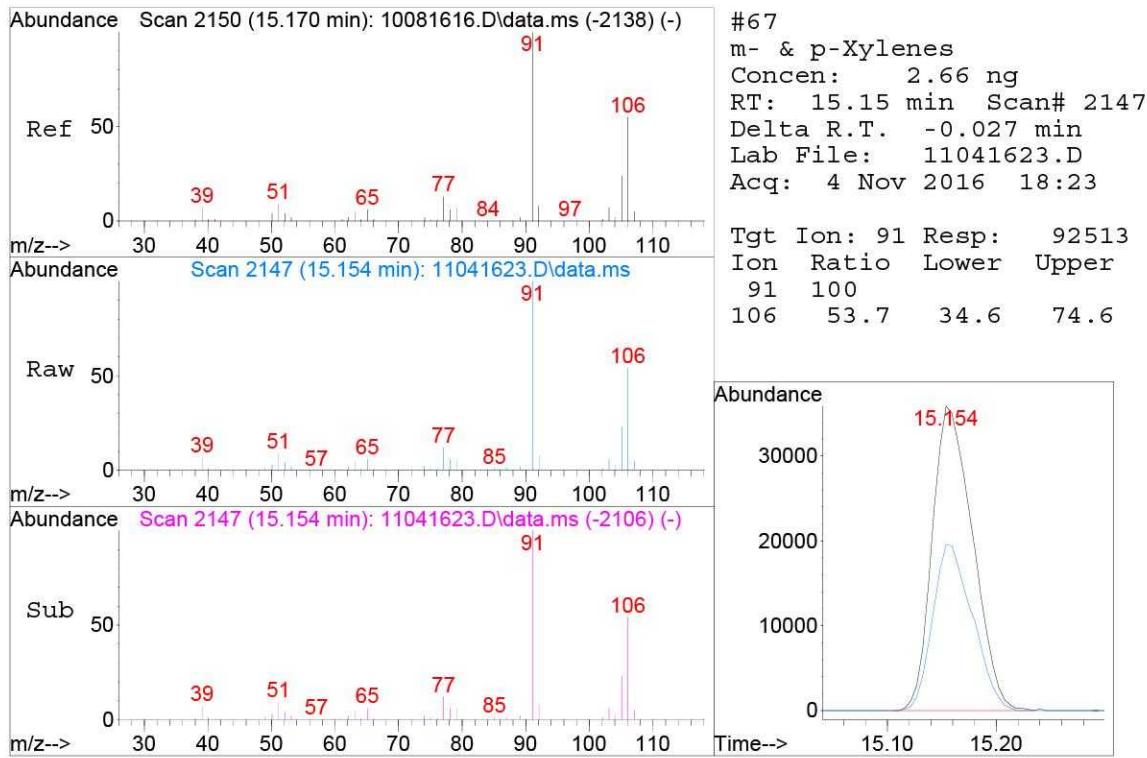


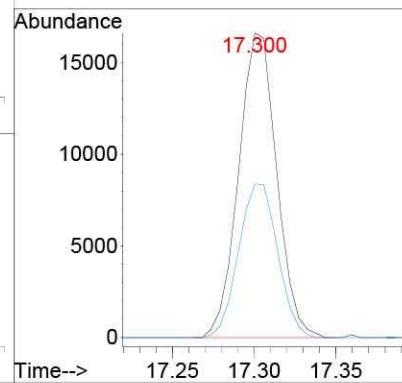
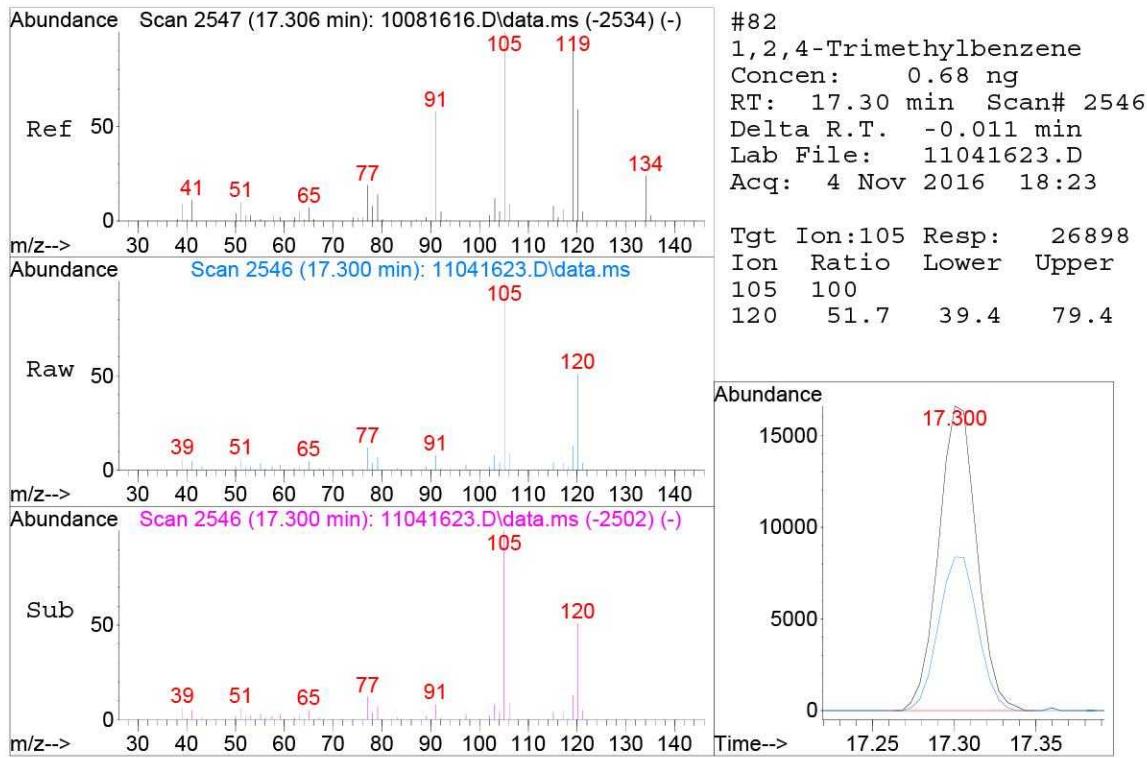












Data File: I:\MS08\Data\2016_11\04\11041624.D
 Acq On : 4 Nov 2016 18:56
 Sample : P1605059-005 (1000mL)
 Misc : S29-10041602
 ALS Vial : 7 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 07 15:51:20 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane (IS1)	8.78	130	110154	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	10.53	114	514190	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.56	82	205375	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.48	65	138961	12.595	ng	-0.02
Spiked Amount	12.500	Range	70 - 130	Recovery	=	100.80%
57) Toluene-d8 (SS2)	12.77	98	523829	12.820	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	102.56%
73) Bromofluorobenzene (SS3)	16.07	174	208921	12.374	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	98.96%

Target Compounds

						Qvalue
2) Propene	3.89	42	12959	1.238	ng	# 53
3) Dichlorodifluoromethan...	3.99	85	28545	1.721	ng	99
4) Chloromethane	4.19	50	1945	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	4.35	135	751	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	4.65	54	739	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	5.15	64	731	N.D.		
10) Ethanol	5.36	45	85448	12.275	ng	99
11) Acetonitrile	5.58	41	7158	N.D.		
12) Acrolein	5.72	56	772	N.D.		
13) Acetone	5.83	58	101606	13.123	ng	# 1
14) Trichlorofluoromethane	6.01	101	13228	0.880	ng	99
15) 2-Propanol (Isopropanol)	6.12	45	112163	5.215	ng	99
16) Acrylonitrile	0.00	53	0	N.D. d		
17) 1,1-Dichloroethene	6.66	96	2123	N.D.		
18) 2-Methyl-2-Propanol (t...	6.75	59	2800	N.D.		
19) Methylene Chloride	6.79	84	1864	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D. d		
21) Trichlorotrifluoroethane	7.06	151	3131	N.D.		
22) Carbon Disulfide	7.05	76	11374	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	8.05	63	548	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D. d		
27) 2-Butanone (MEK)	8.24	72	5979	0.996	ng	# 90
28) cis-1,2-Dichloroethene	8.65	61	742	N.D.		
29) Diisopropyl Ether	8.86	87	1555	N.D.		
30) Ethyl Acetate	8.85	61	5655	1.815	ng	79
31) n-Hexane	8.86	57	97713	6.399	ng	97
32) Chloroform	8.91	83	15750	1.034	ng	93
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	9.59	62	922	N.D.		
38) 1,1,1-Trichloroethane	9.82	97	822	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	10.15	56	3660	N.D.		
41) Benzene	10.23	78	68994	1.684	ng	99
42) Carbon Tetrachloride	10.37	117	3758	N.D.		
43) Cyclohexane	10.48	84	20534	1.289	ng	94
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D. d		
47) Trichloroethene	11.17	130	2553	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	109 of 288	N.D. d		

Data File: I:\MS08\Data\2016_11\04\11041624.D
 Acq On : 4 Nov 2016 18:56
 Sample : P1605059-005 (1000mL)
 Misc : S29-10041602
 ALS Vial : 7 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 07 15:51:20 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

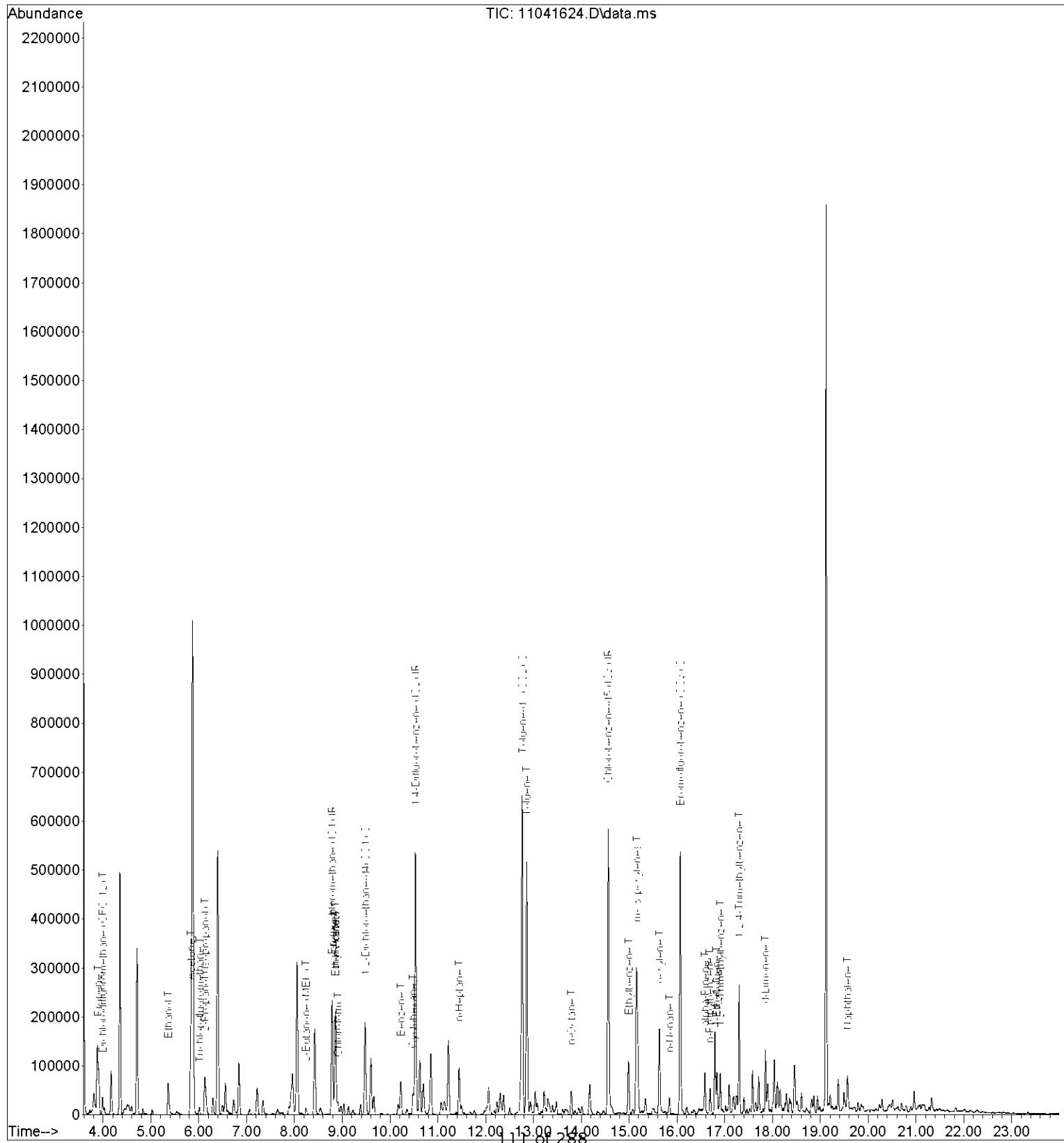
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
50) Methyl Methacrylate	11.22	100	600	N.D.		
51) n-Heptane	11.44	71	25868	2.700	ng	99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.97	58	2895	N.D.		
54) trans-1,3-Dichloropropene	12.37	75	1353	N.D.		
55) 1,1,2-Trichloroethane	12.51	97	465	N.D.		
58) Toluene	12.86	91	412333	10.280	ng	99
59) 2-Hexanone	0.00	43	0	N.D.	d	
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.67	43	4866	N.D.		
63) n-Octane	13.79	57	9834	1.256	ng	97
64) Tetrachloroethene	13.94	166	5193	N.D.		
65) Chlorobenzene	14.64	112	1789	N.D.		
66) Ethylbenzene	14.99	91	99711	2.254	ng	98
67) m- & p-Xylenes	15.15	91	267542	7.866	ng	100
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	15.52	104	5568	N.D.		
70) o-Xylene	15.63	91	109053	3.121	ng	99
71) n-Nonane	15.84	43	12818	0.721	ng	97
72) 1,1,2,2-Tetrachloroethane	15.63	83	781	N.D.		
74) Cumene	16.20	105	9183	N.D.		
75) alpha-Pinene	16.59	93	37091	1.537	ng	96
76) n-Propylbenzene	16.69	91	37881	0.706	ng	94
77) 3-Ethyltoluene	0.00	105	0	N.D.	d	
78) 4-Ethyltoluene	16.83	105	45130	1.009	ng	99
79) 1,3,5-Trimethylbenzene	16.91	105	39437	1.004	ng	98
80) alpha-Methylstyrene	17.05	118	3779	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D.	d	
82) 1,2,4-Trimethylbenzene	17.30	105	142690	3.676	ng	88
83) n-Decane	0.00	57	0	N.D.	d	
84) Benzyl Chloride	17.53	91	3116	N.D.		
85) 1,3-Dichlorobenzene	17.52	146	2181	N.D.		
86) 1,4-Dichlorobenzene	17.52	146	2181	N.D.		
87) sec-Butylbenzene	17.56	105	3498	N.D.		
88) 4-Isopropyltoluene (p-)	17.71	119	14160	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	17.85	68	32296	2.260	ng	90
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	19.57	128	52490	0.944	ng	97
96) n-Dodecane	19.58	57	6194	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	15.32	55	5517	N.D.		
99) tert-Butylbenzene	0.00	119	0	N.D.	d	
100) n-Butylbenzene	18.11	91	11721	N.D.		

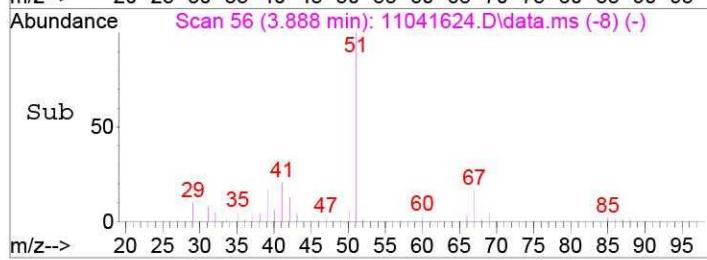
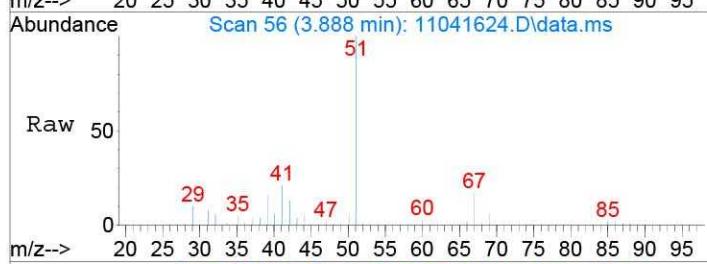
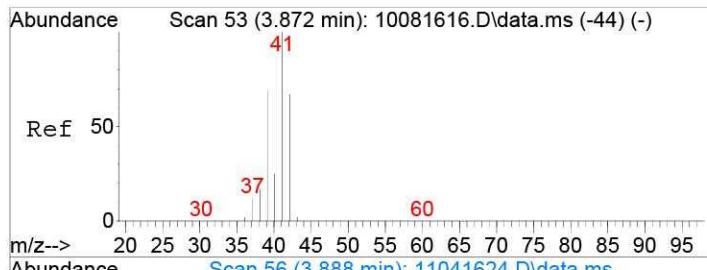
(#= qualifier out of range (m)= manual integration (+)= signals summed

Data File: I:\MS08\Data\2016_11\04\11041624.D
Acq On : 4 Nov 2016 18:56
Sample : P1605059-005 (1000mL)
Misc : S29-10041602
ALS Vial : 7 Sample Multiplier: 1

Operator: WA

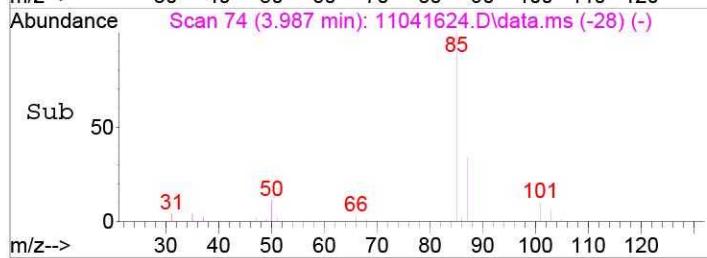
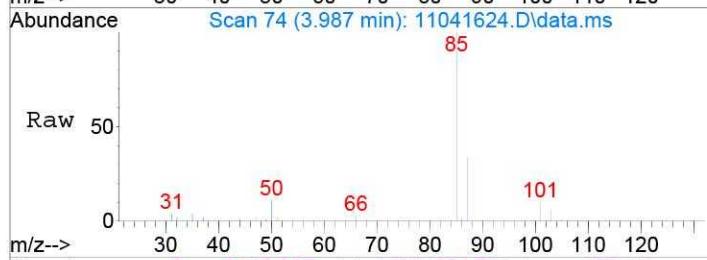
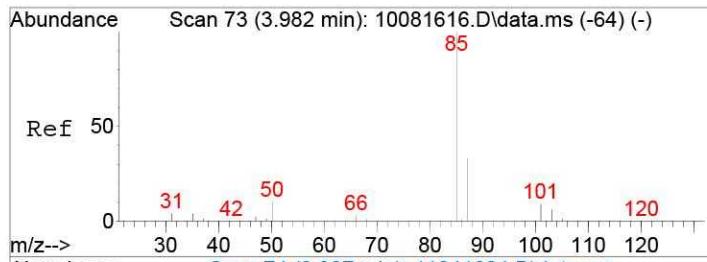
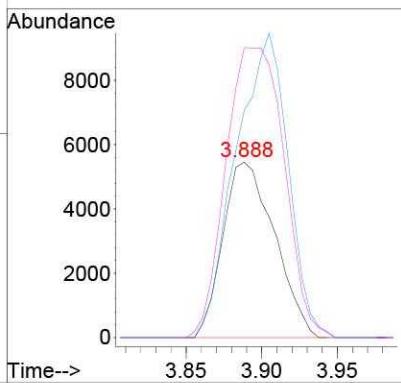
Quant Time: Nov 07 15:51:20 2016
Quant Method : I:\MS08\Methods\R8100816.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 12 15:54:53 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M





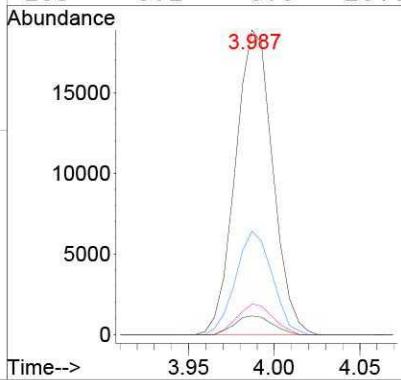
#2
Propene
Concen: 1.24 ng
RT: 3.89 min Scan# 56
Delta R.T. 0.010 min
Lab File: 11041624.D
Acq: 4 Nov 2016 18:56

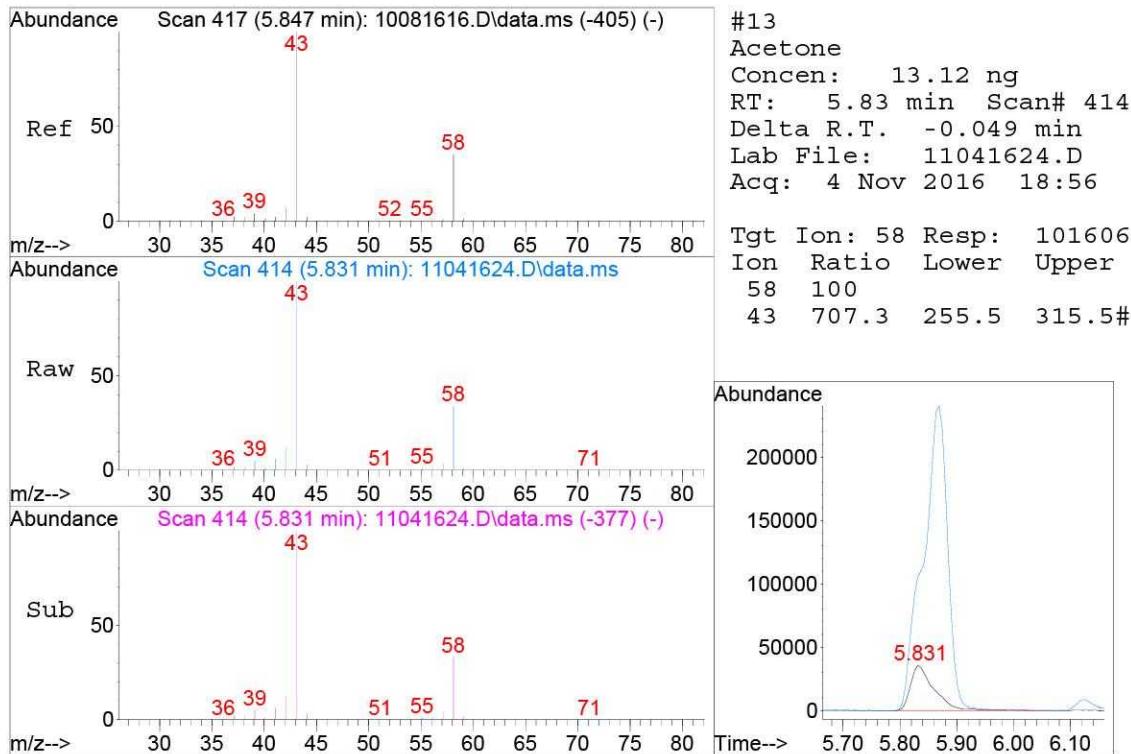
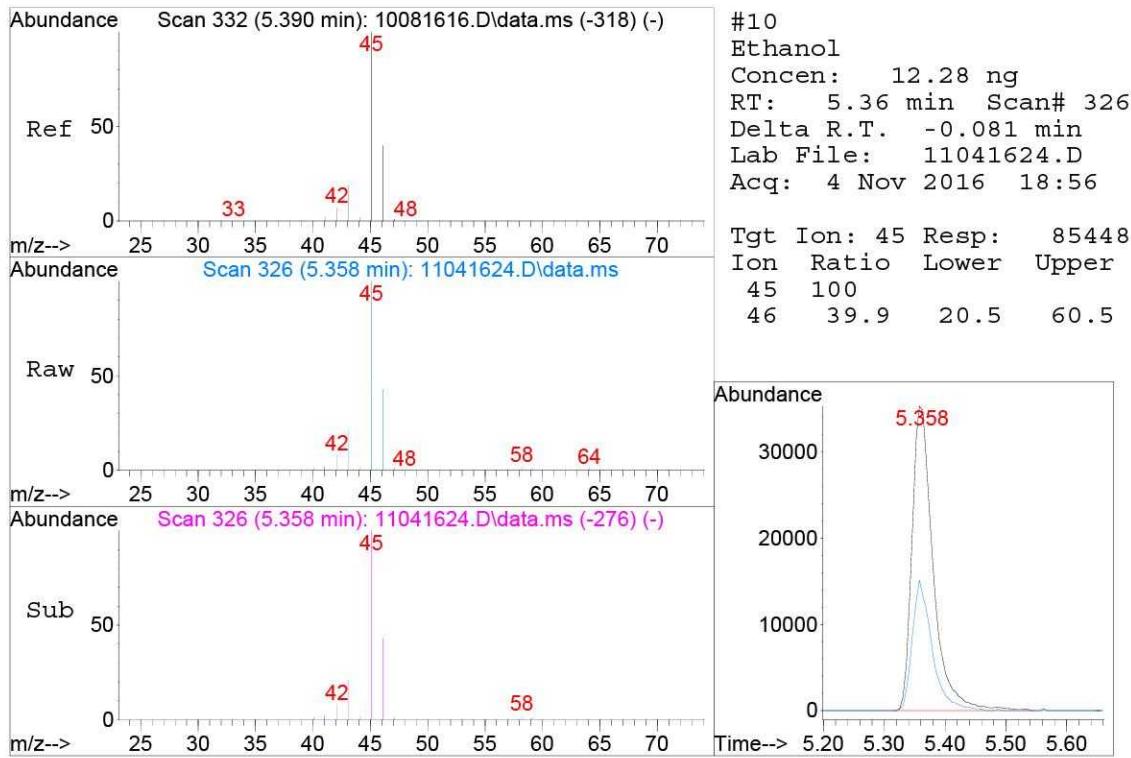
Tgt Ion: 42 Resp: 12959
Ion Ratio Lower Upper
42 100
39 175.0 83.4 123.4#
41 186.9 128.8 168.8#

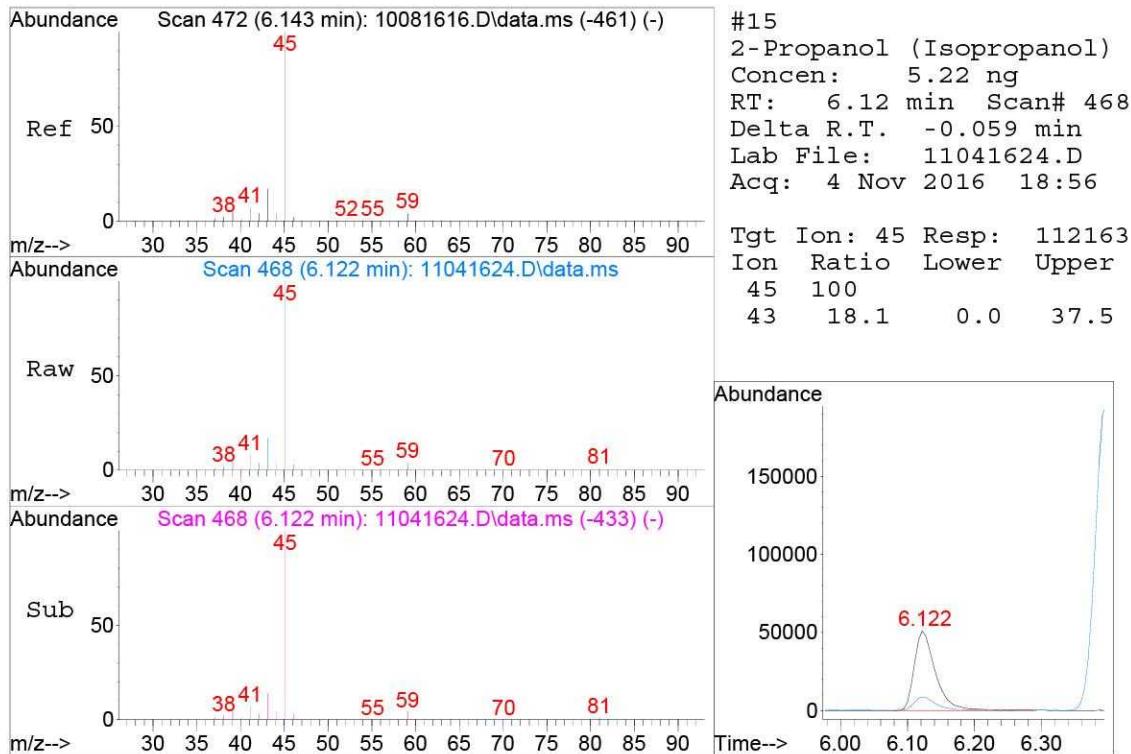
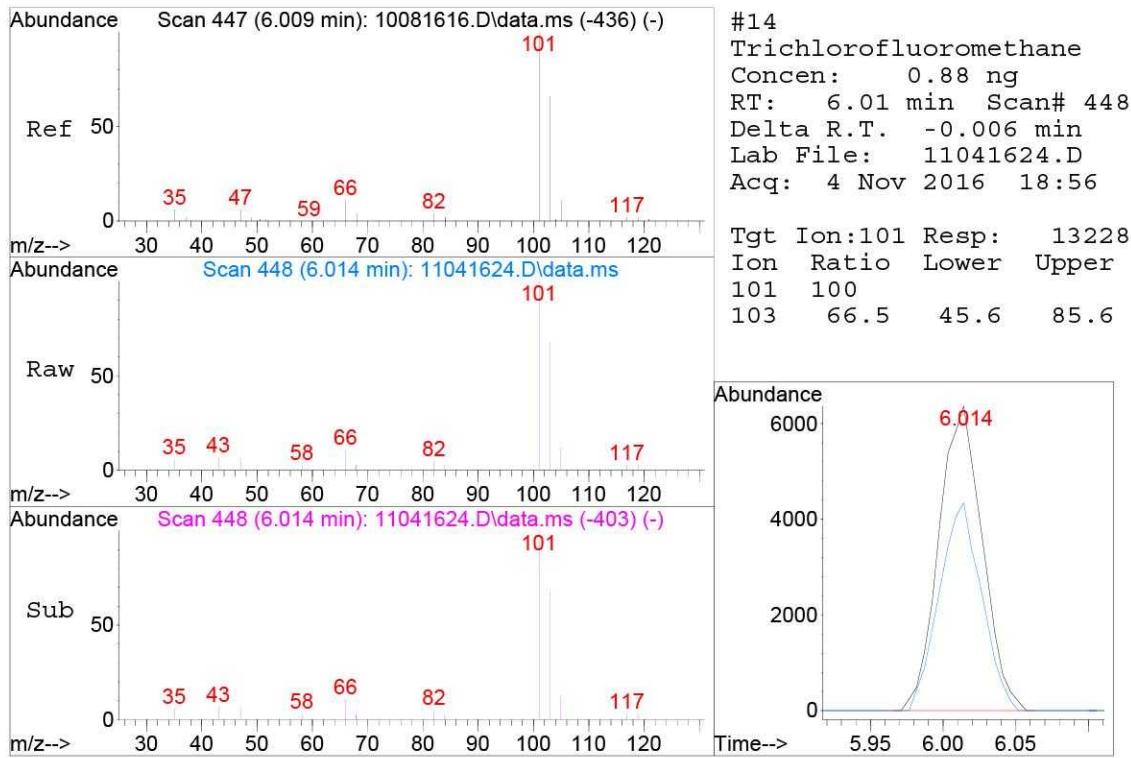


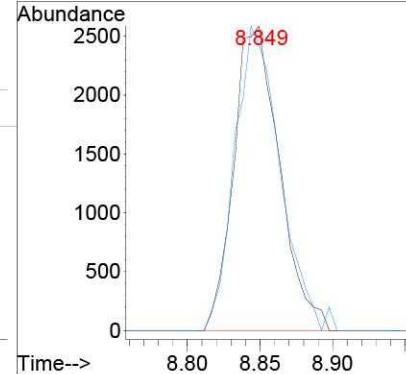
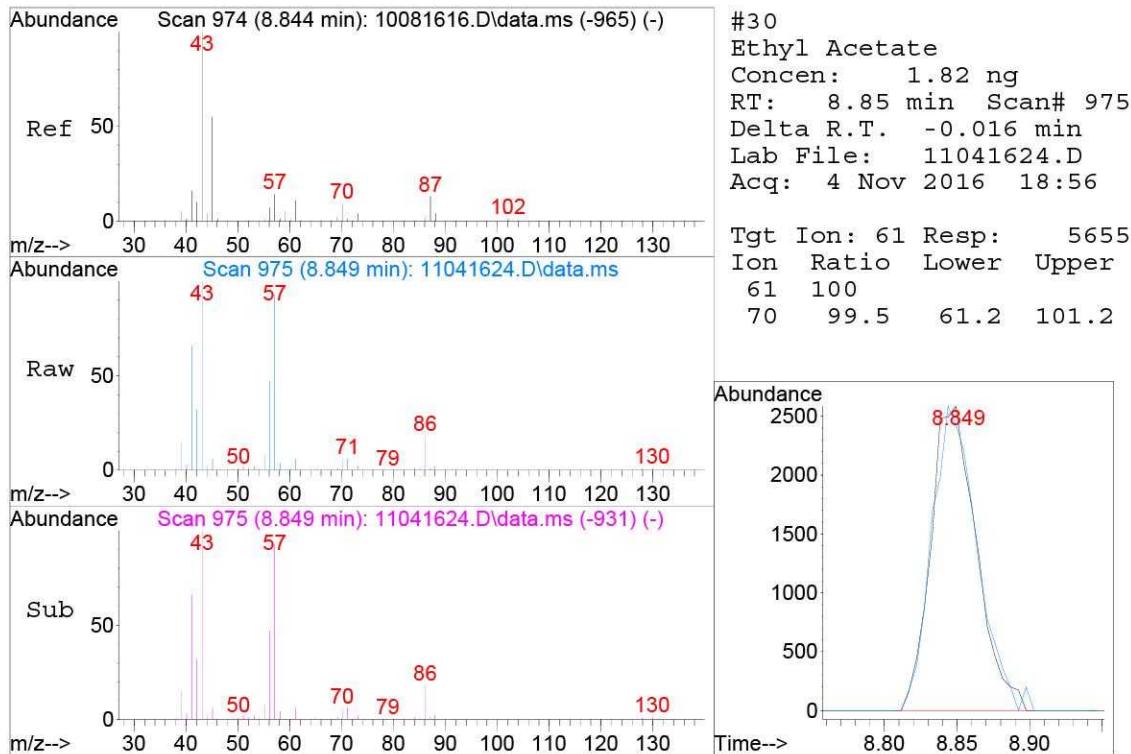
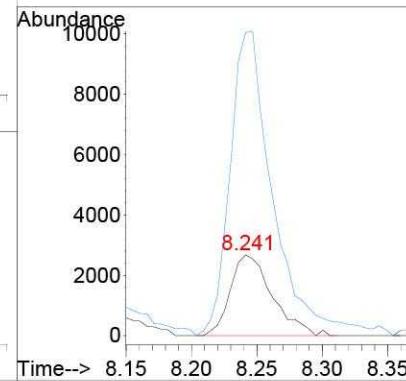
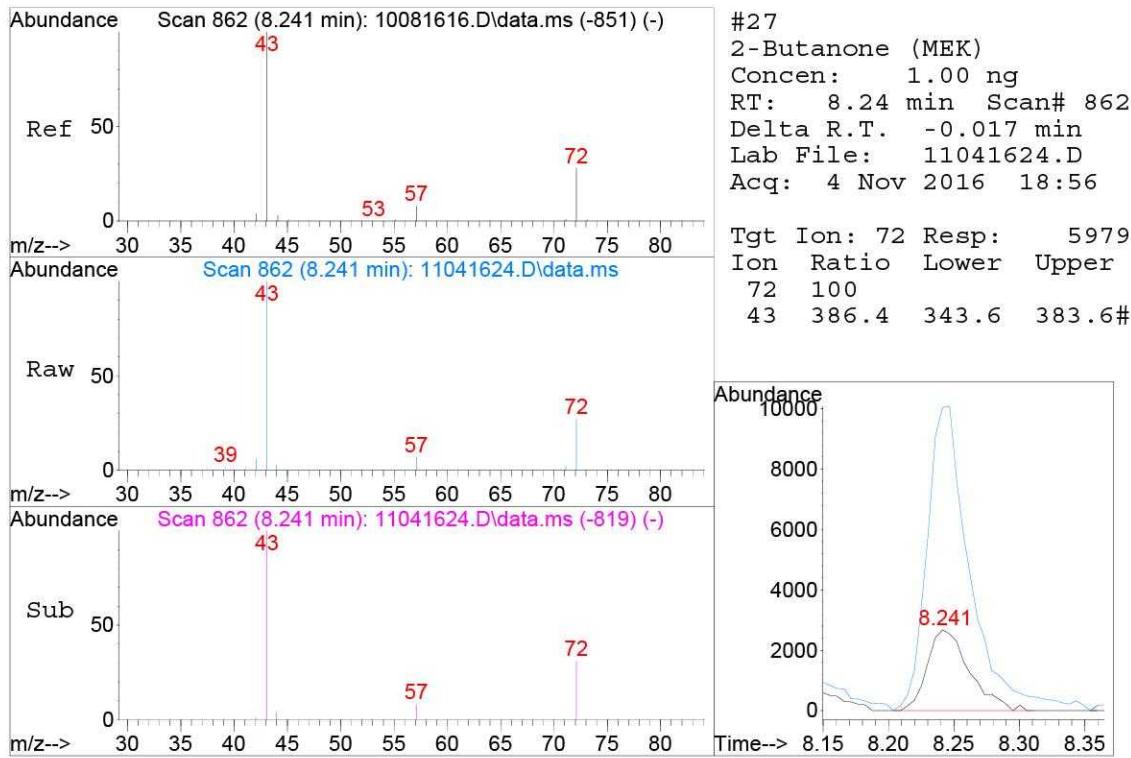
#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.72 ng
RT: 3.99 min Scan# 74
Delta R.T. -0.000 min
Lab File: 11041624.D
Acq: 4 Nov 2016 18:56

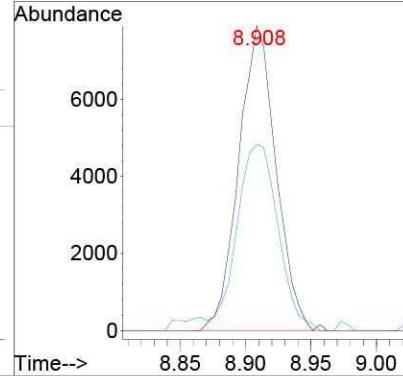
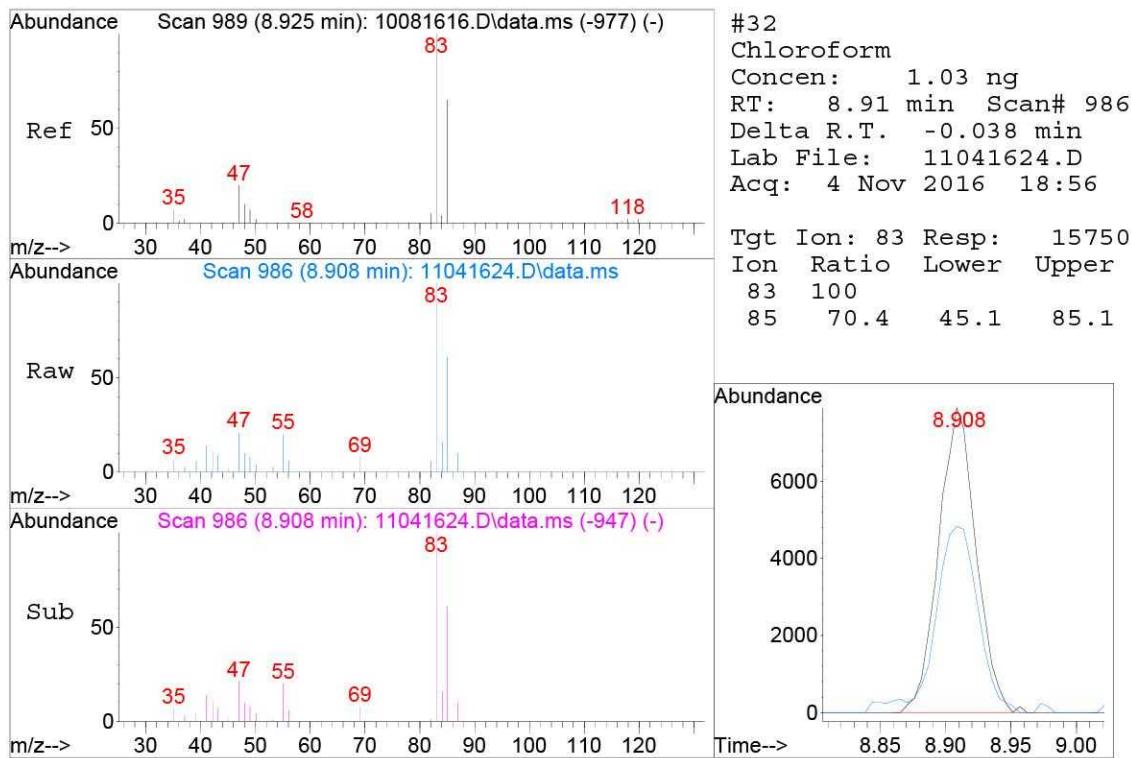
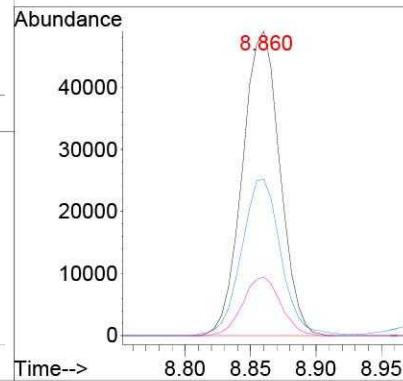
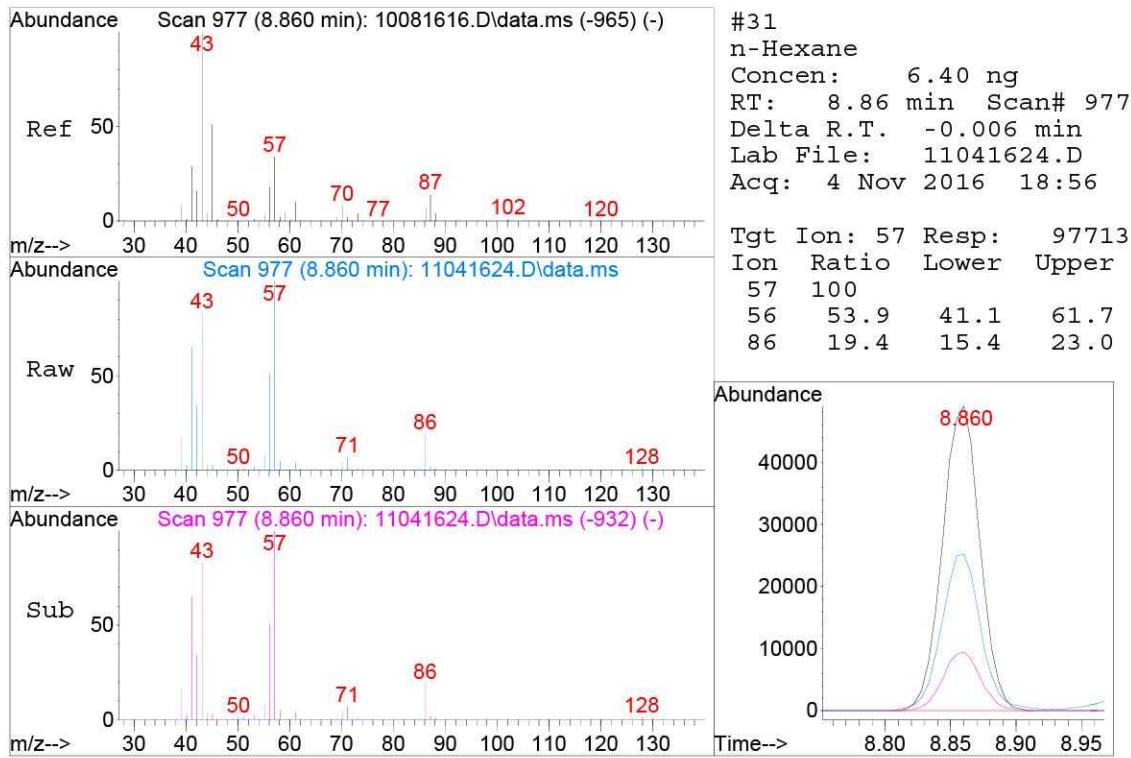
Tgt Ion: 85 Resp: 28545
Ion Ratio Lower Upper
85 100
87 33.1 12.8 52.8
101 9.6 0.0 29.7
103 6.1 0.0 26.4

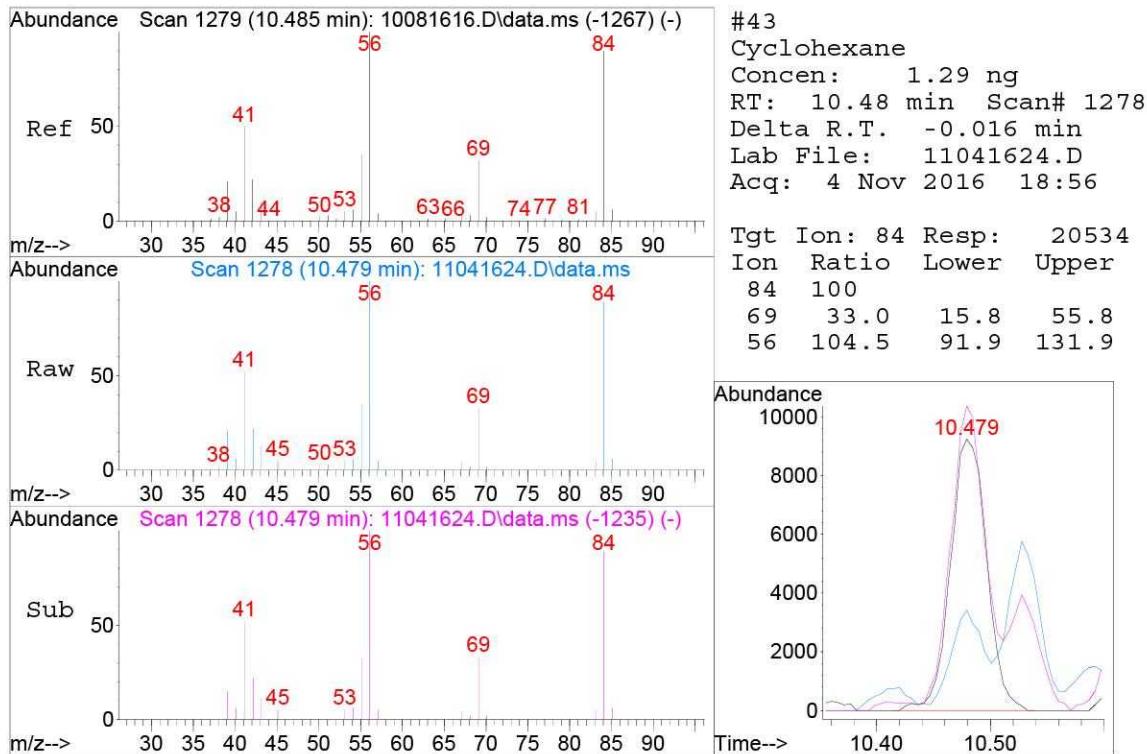
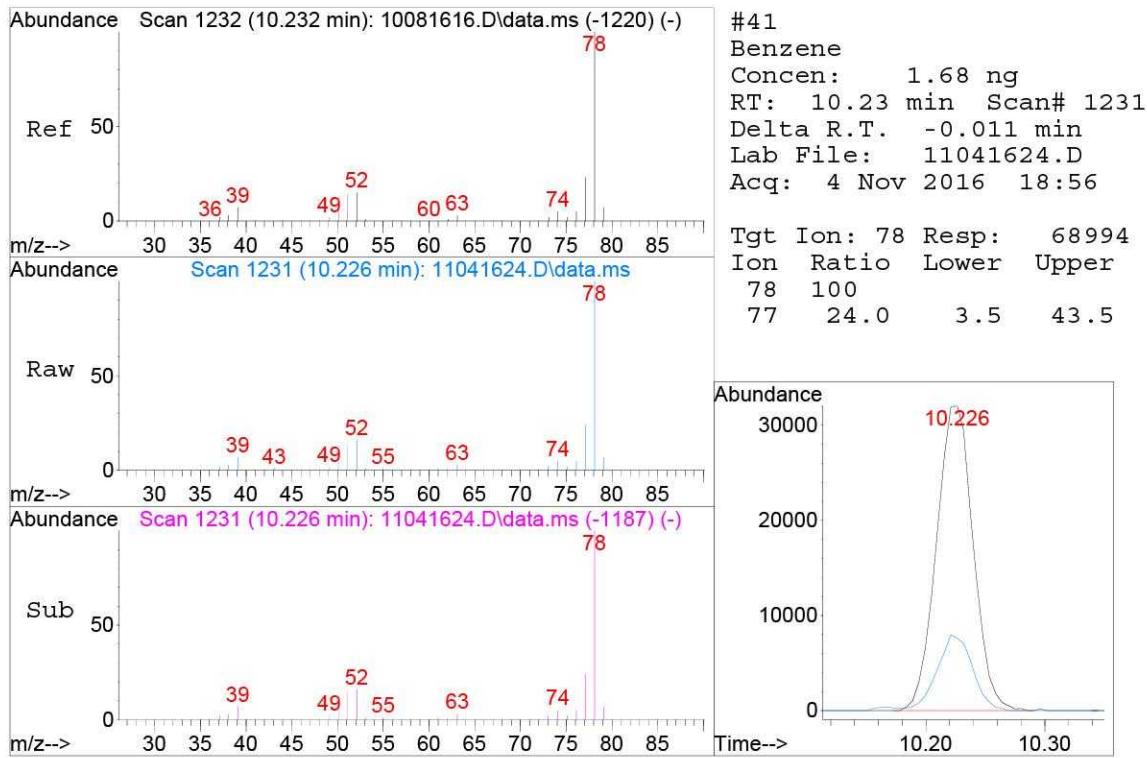


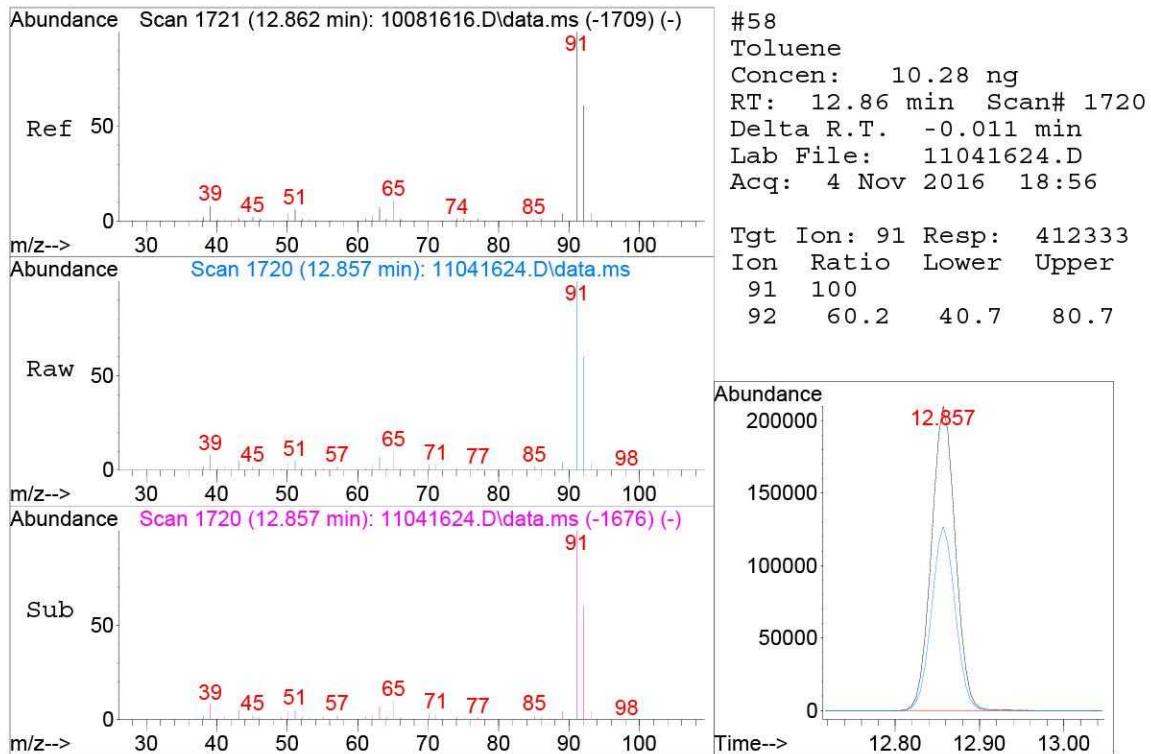
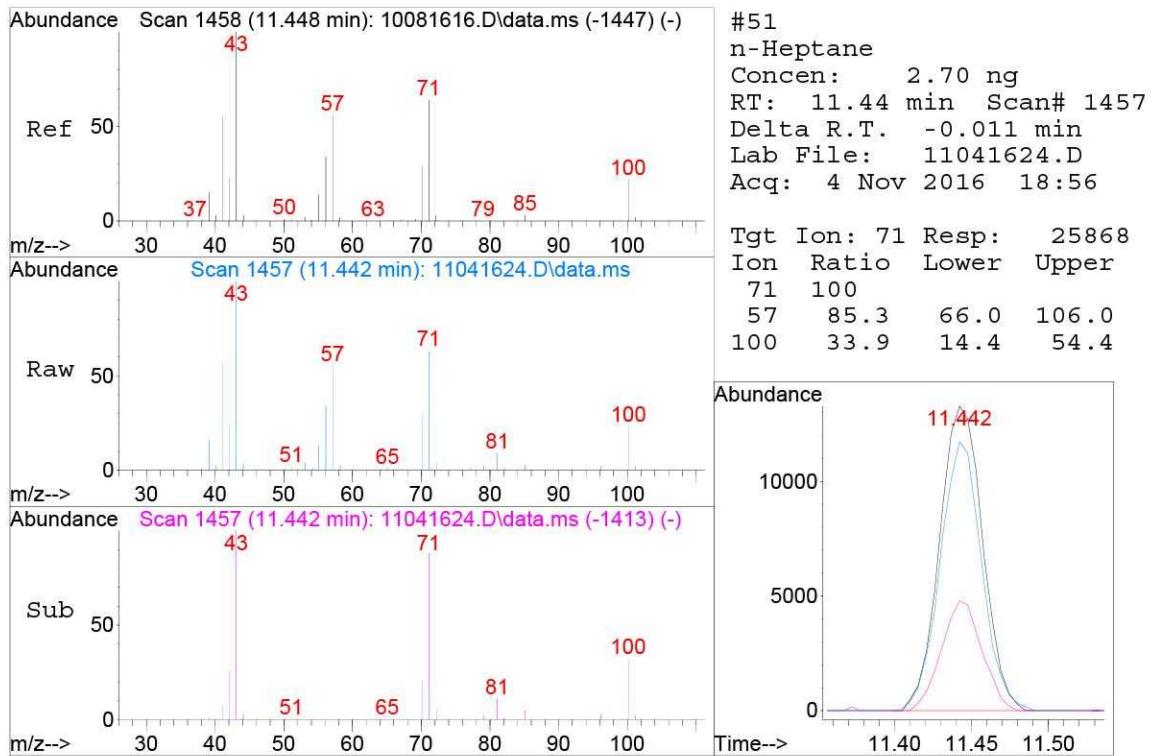


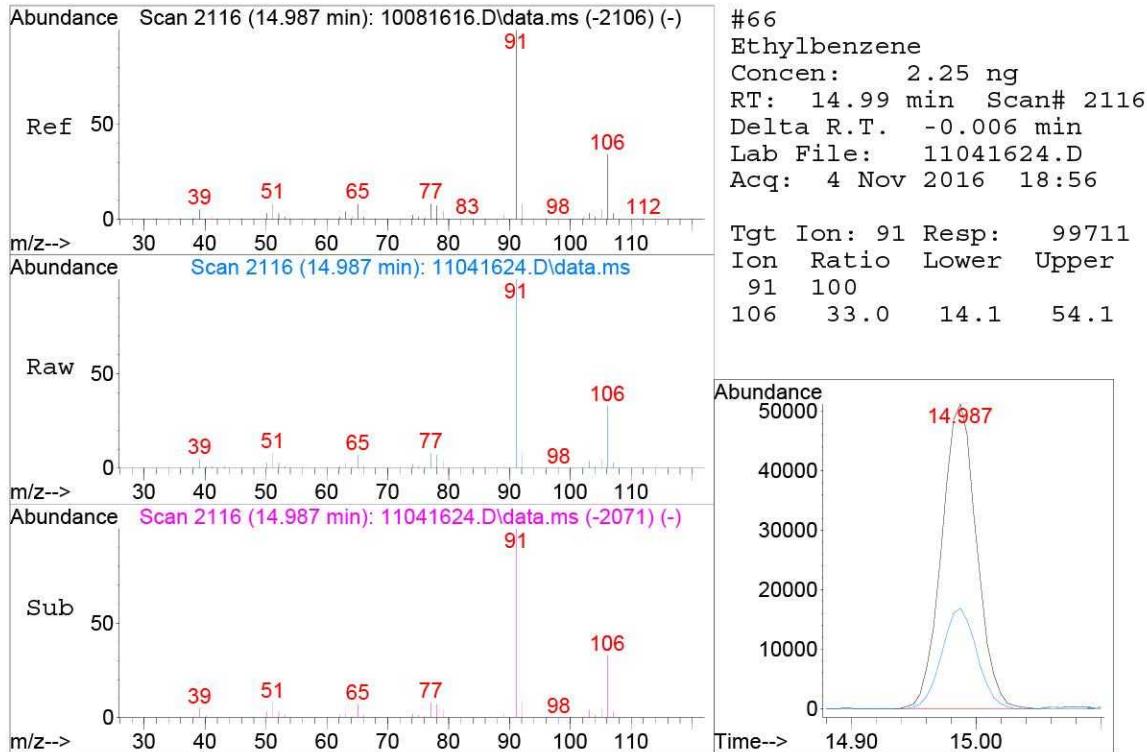
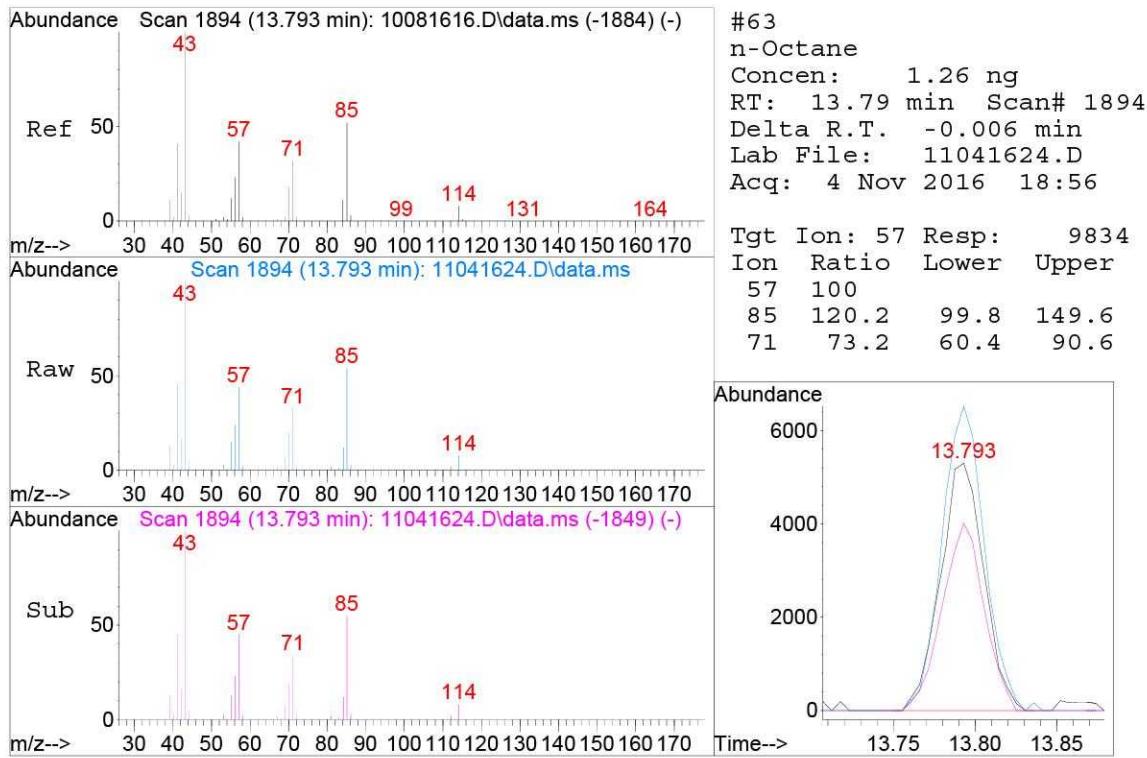


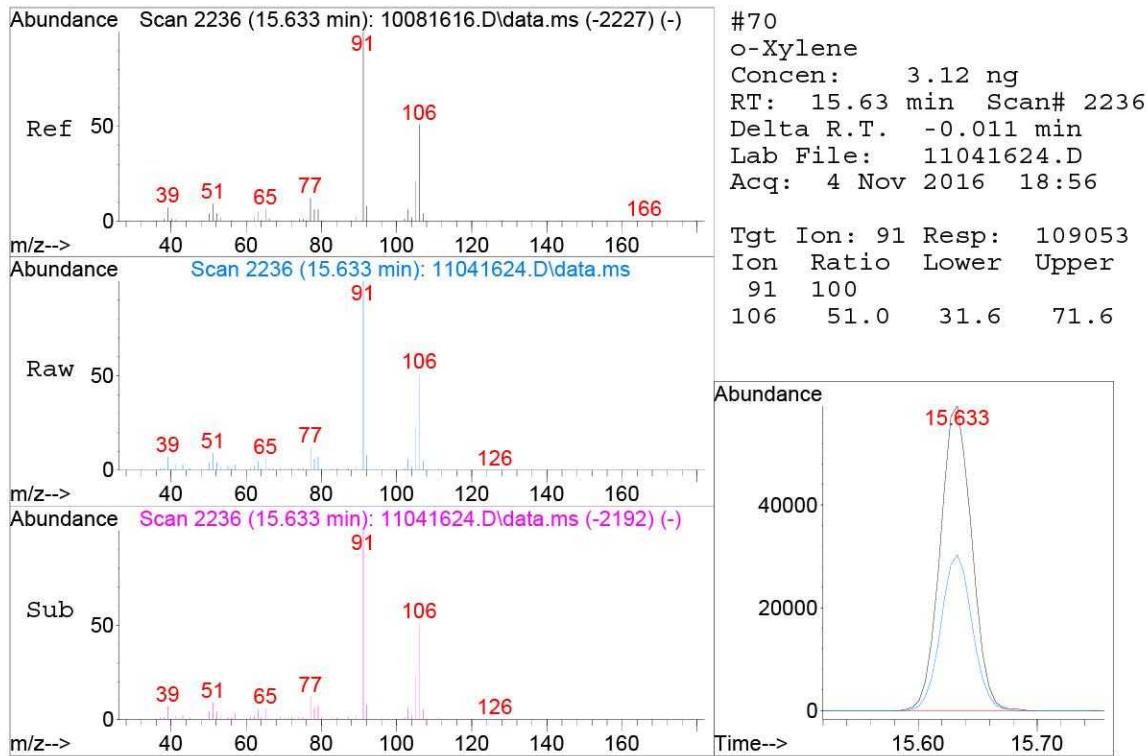
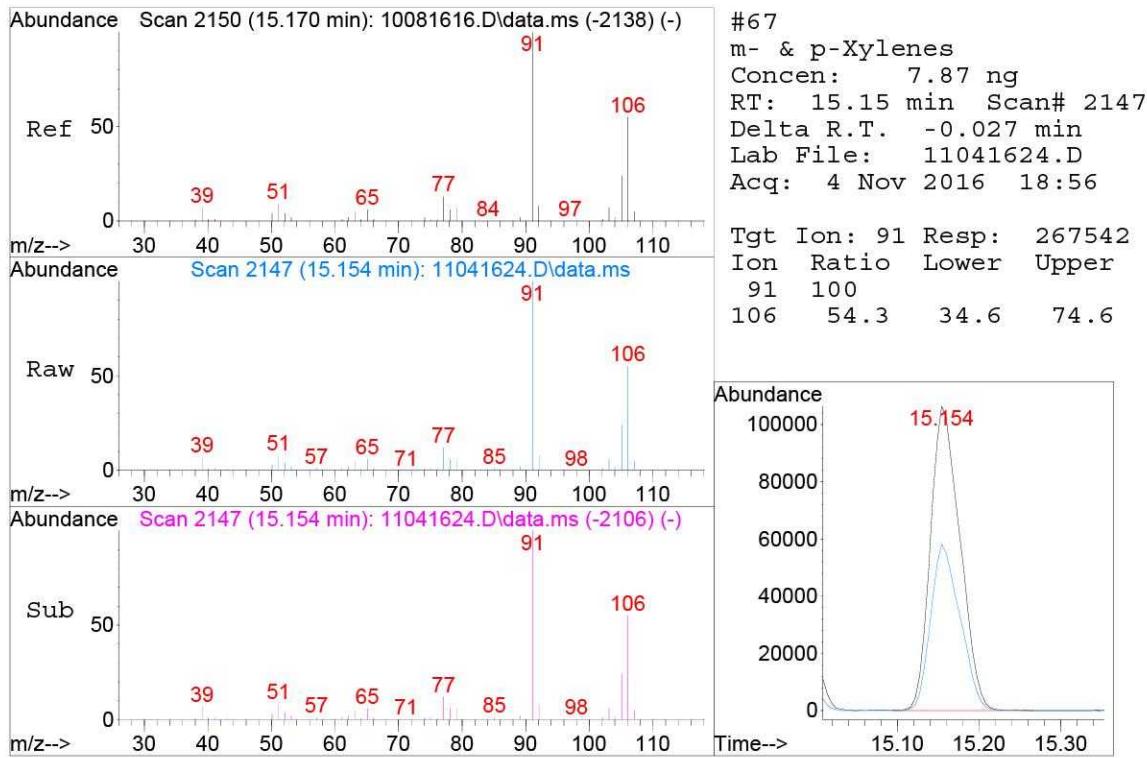


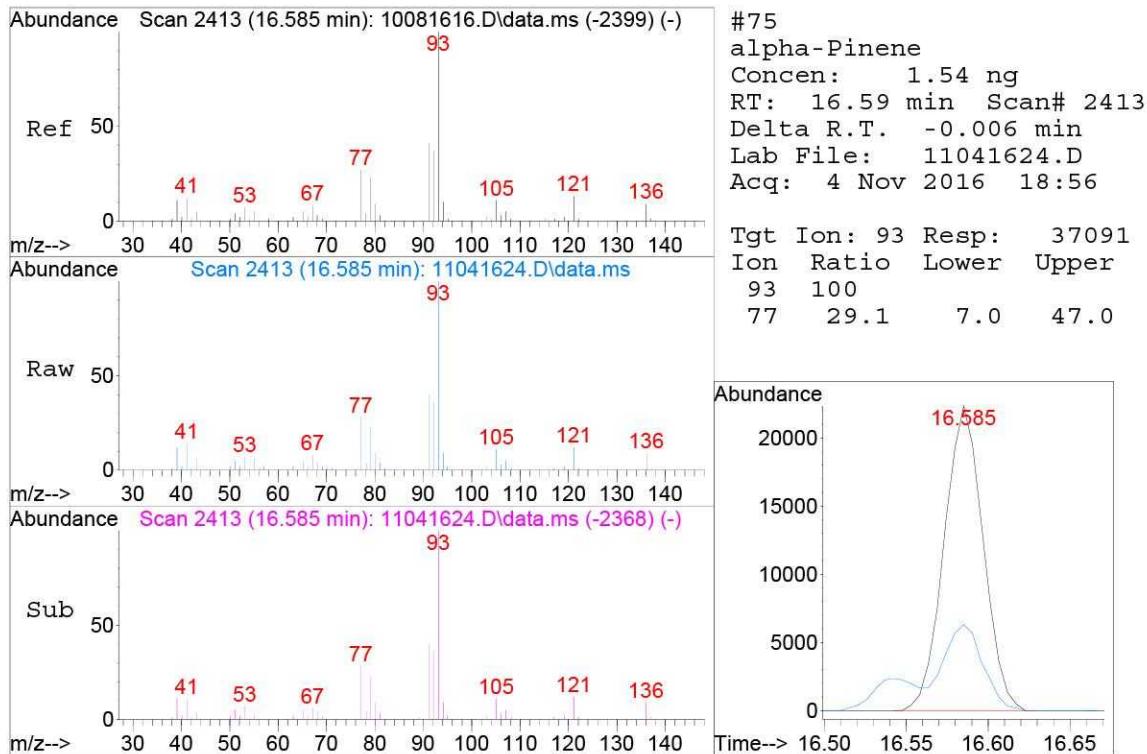
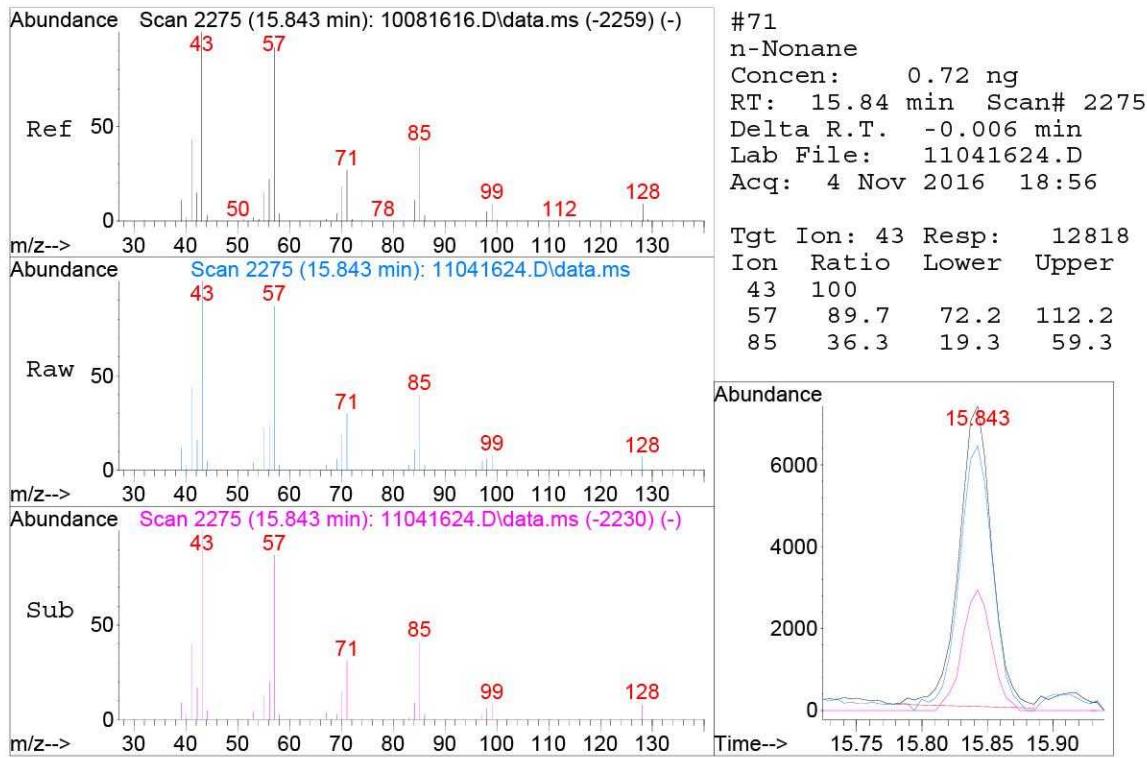


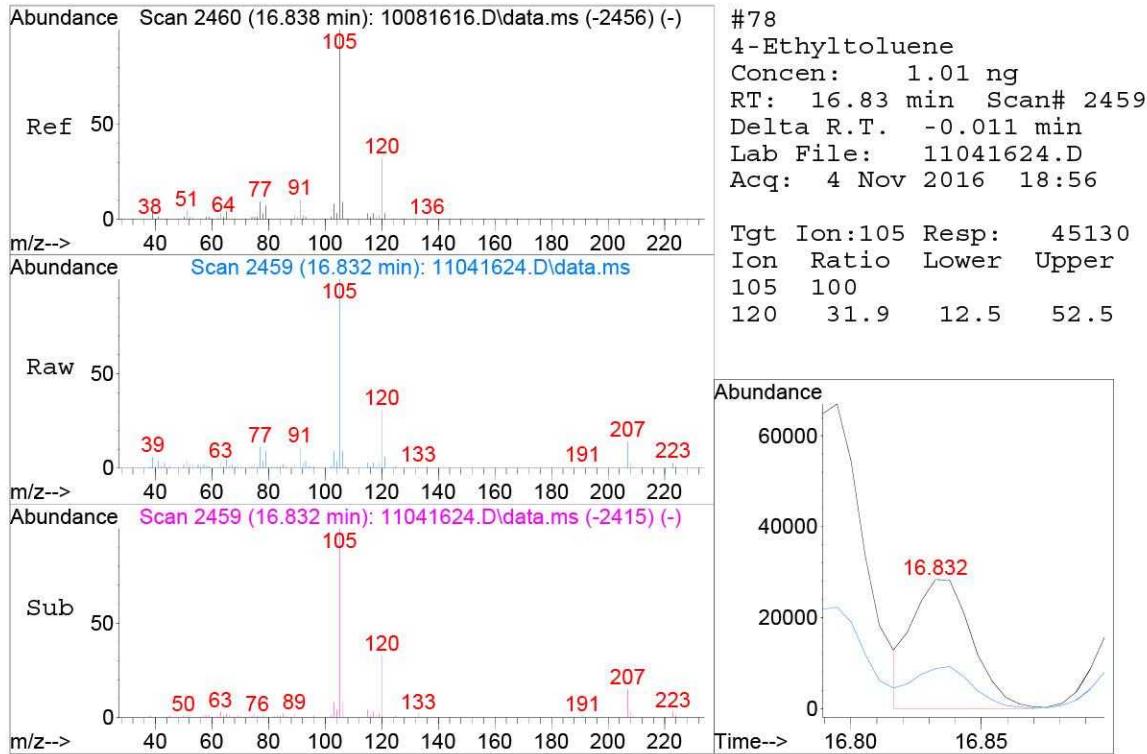
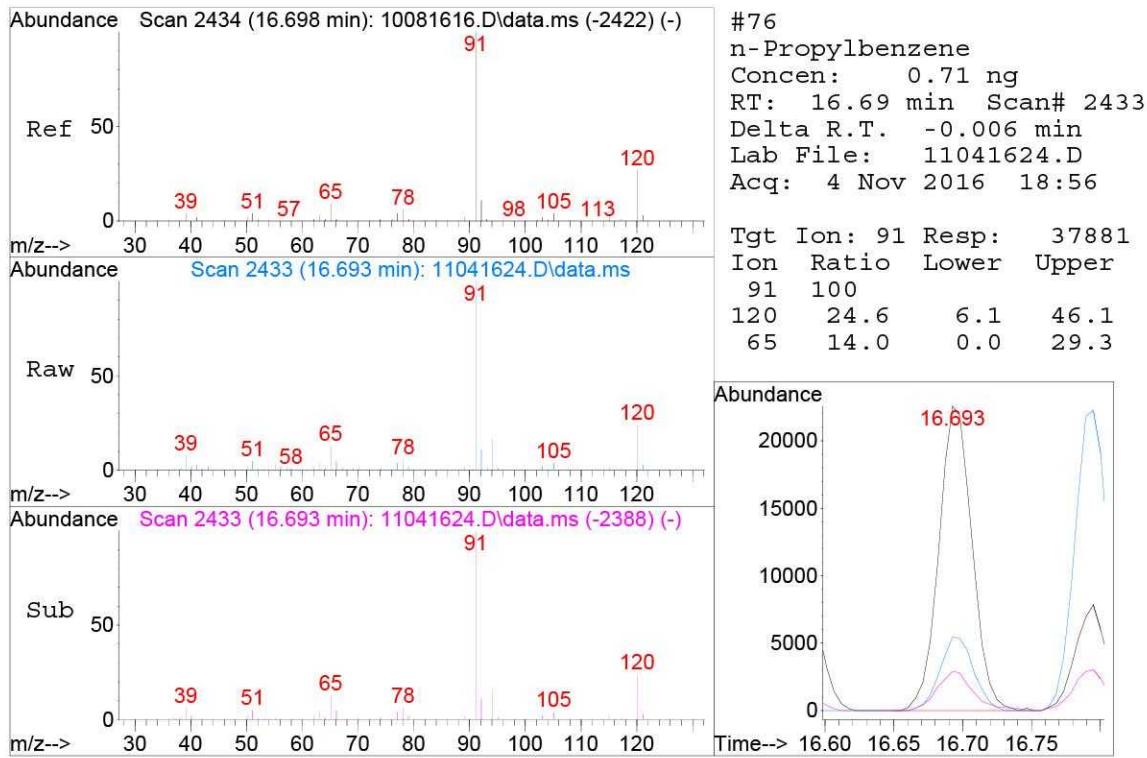


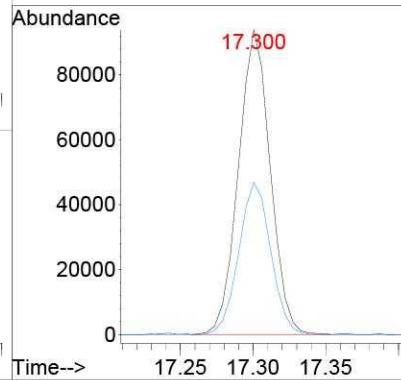
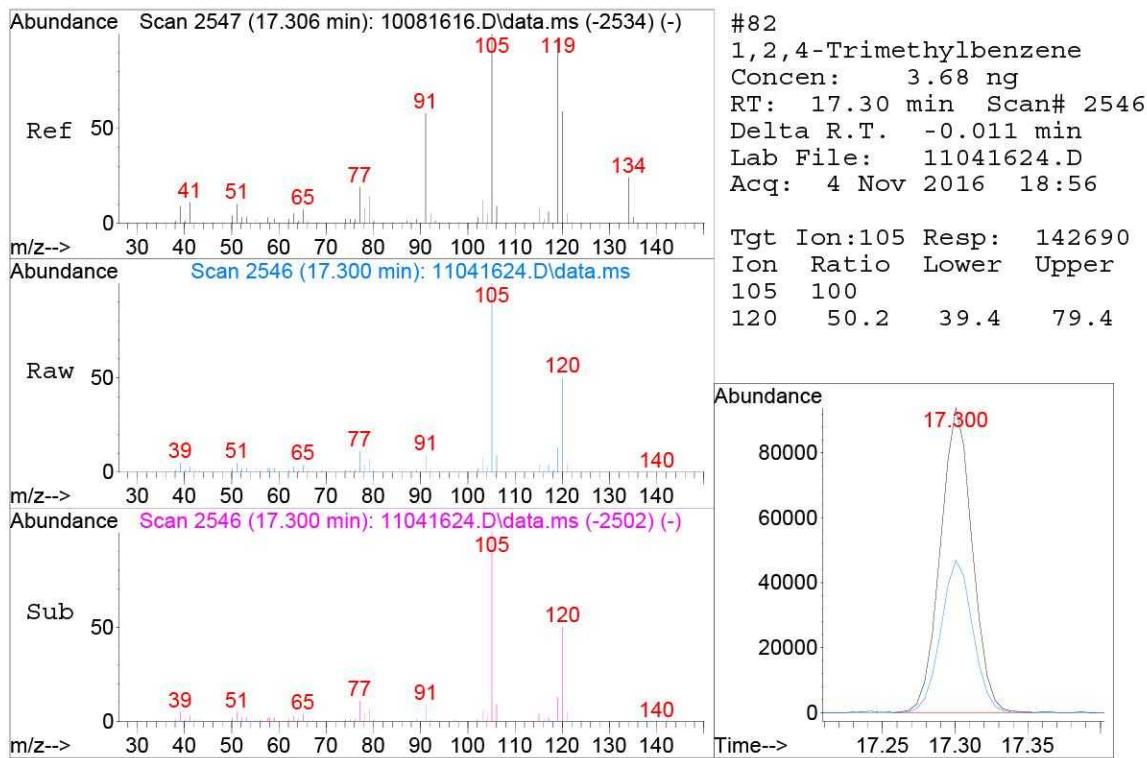
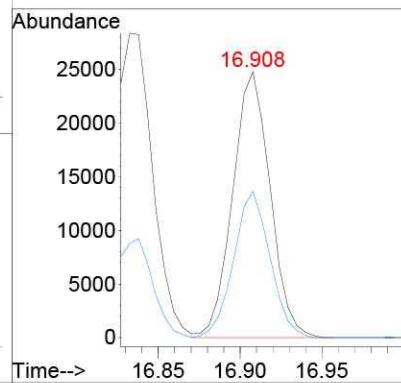
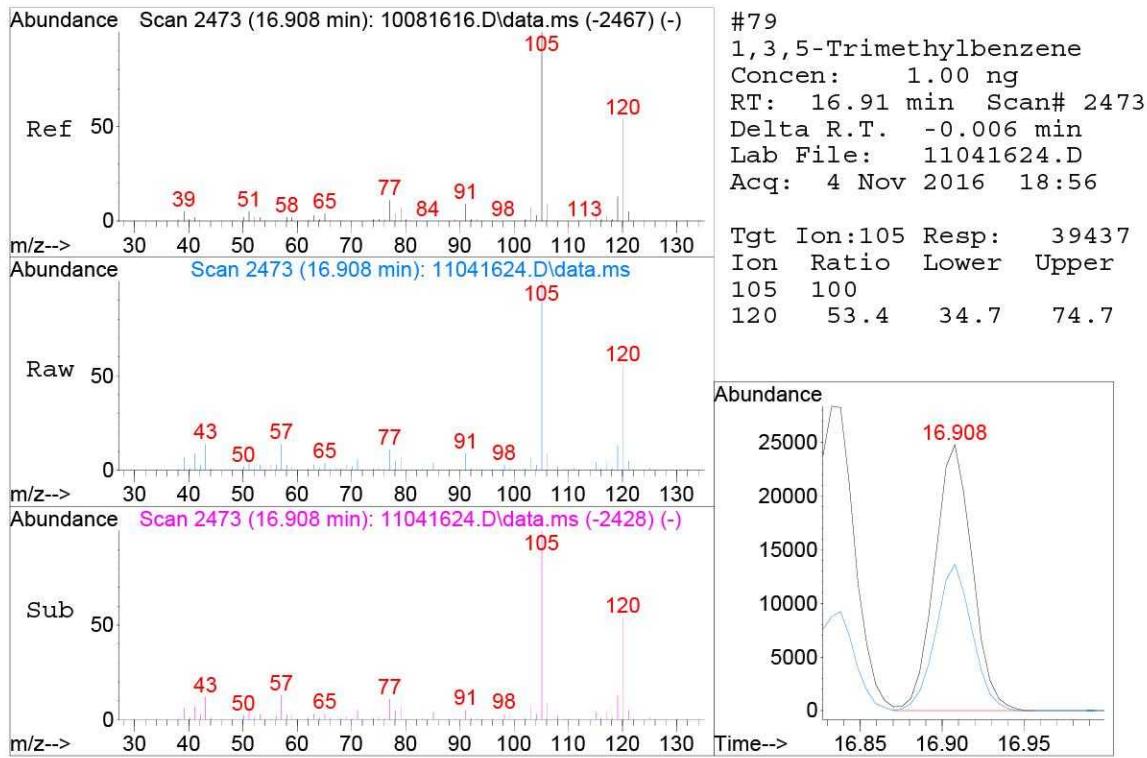


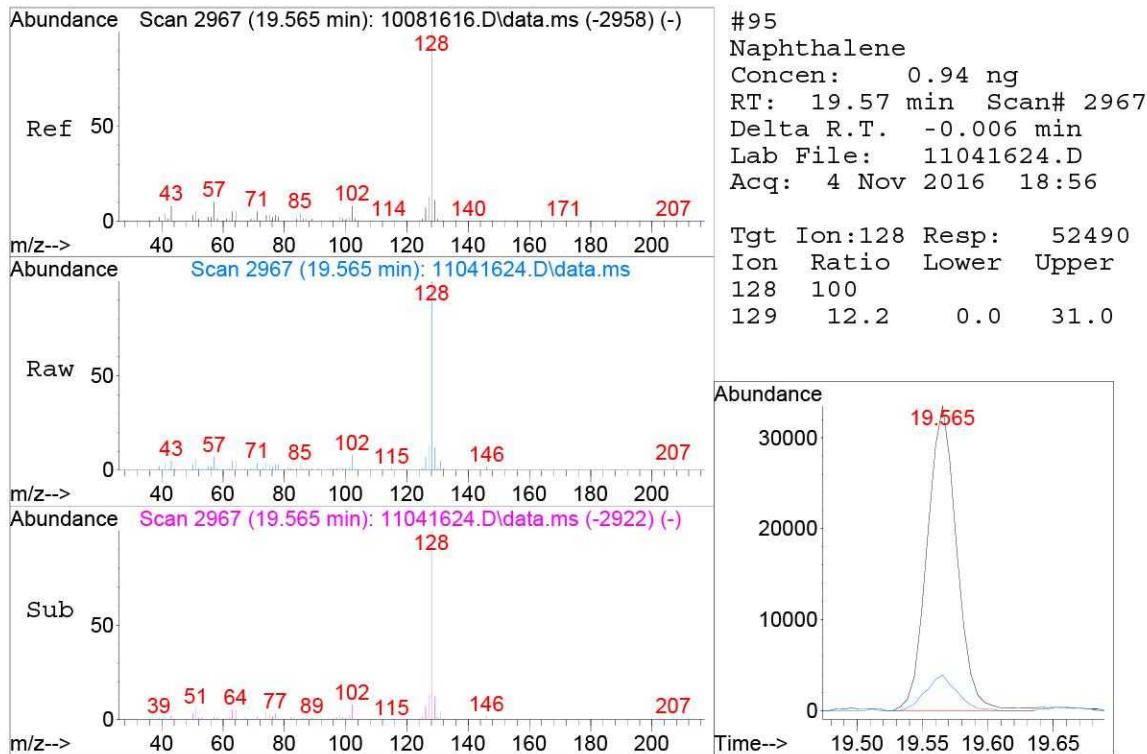
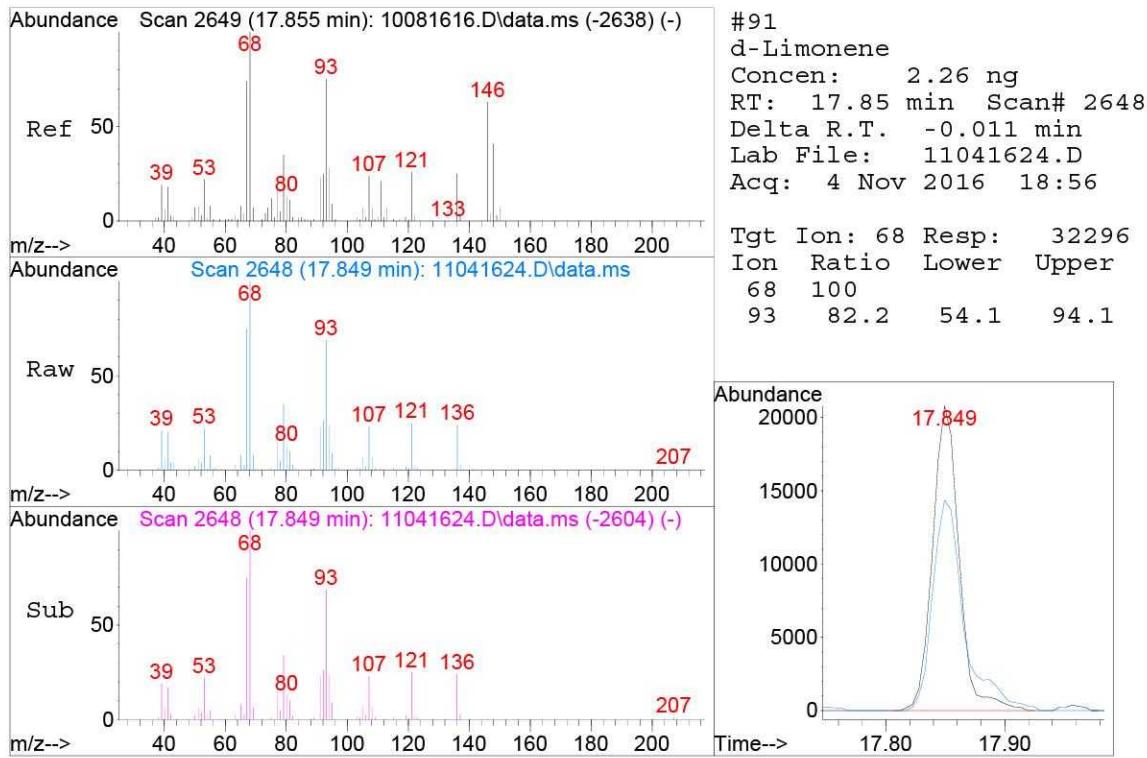












Data File: I:\MS08\Data\2016_11\04\11041625.D
 Acq On : 4 Nov 2016 19:28
 Sample : P1605059-006 (1000mL)
 Misc : S29-10041602
 ALS Vial : 8 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 07 16:18:27 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane (IS1)	8.78	130	107554	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	10.53	114	514957	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.56	82	206636	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.47	65	136325	12.655	ng	-0.03
Spiked Amount	12.500	Range	70 - 130	Recovery	=	101.20%
57) Toluene-d8 (SS2)	12.76	98	528340	12.851	ng	-0.01
Spiked Amount	12.500	Range	70 - 130	Recovery	=	102.80%
73) Bromofluorobenzene (SS3)	16.07	174	205943	12.123	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	96.96%

Target Compounds

					Qvalue	
2) Propene	3.89	42	8535	0.835	ng	# 74
3) Dichlorodifluoromethan...	3.99	85	24694	1.525	ng	99
4) Chloromethane	4.21	50	883	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	4.35	135	563	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	4.65	54	598	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	5.17	64	461	N.D.		
10) Ethanol	5.36	45	15357	2.259	ng	99
11) Acetonitrile	5.58	41	2932	N.D.		
12) Acrolein	5.71	56	4254	0.751	ng	96
13) Acetone	5.84	58	41330	5.467	ng	# 1
14) Trichlorofluoromethane	6.01	101	10511	0.717	ng	96
15) 2-Propanol (Isopropanol)	6.12	45	48347	2.302	ng	97
16) Acrylonitrile	6.39	53	1624	N.D.		
17) 1,1-Dichloroethene	6.65	96	146867	16.913	ng	99
18) 2-Methyl-2-Propanol (t...	6.75	59	3059	N.D.		
19) Methylene Chloride	6.78	84	1700	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D. d		
21) Trichlorotrifluoroethane	7.06	151	3159	N.D.		
22) Carbon Disulfide	7.05	76	5926	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	7.87	63	2192	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D. d		
27) 2-Butanone (MEK)	8.24	72	6140	1.047	ng	# 82
28) cis-1,2-Dichloroethene	8.64	61	2717	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	8.84	61	3990	1.312	ng	98
31) n-Hexane	8.85	57	24925	1.672	ng	98
32) Chloroform	8.91	83	3440	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	9.58	62	572	N.D.		
38) 1,1,1-Trichloroethane	9.81	97	4114	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D. d		
41) Benzene	10.23	78	21593	0.526	ng	99
42) Carbon Tetrachloride	10.36	117	3520	N.D.		
43) Cyclohexane	10.48	84	5723	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	11.14	83	1262	N.D.		
47) Trichloroethene	11.17	130	50604	3.831	ng	98
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	125 of 288	N.D. d		

Data File: I:\MS08\Data\2016_11\04\11041625.D
 Acq On : 4 Nov 2016 19:28
 Sample : P1605059-006 (1000mL)
 Misc : S29-10041602
 ALS Vial : 8 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 07 16:18:27 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

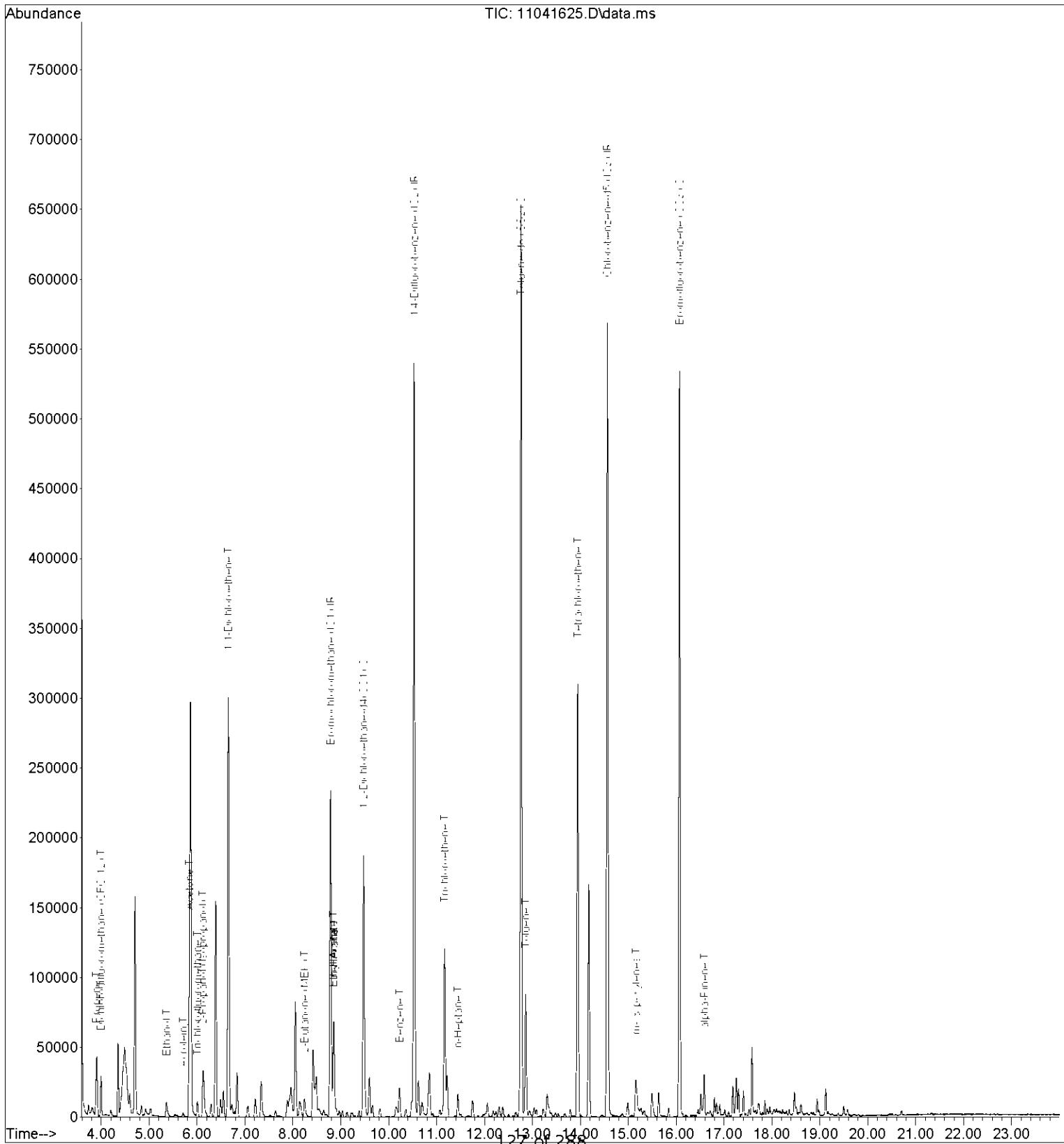
	Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
50)	Methyl Methacrylate	11.44	100	1588	N.D.		
51)	n-Heptane	11.44	71	4805	0.501	ng	97
52)	cis-1,3-Dichloropropene	11.94	75	474	N.D.		
53)	4-Methyl-2-pentanone	11.97	58	434	N.D.		
54)	trans-1,3-Dichloropropene	12.42	75	717	N.D.		
55)	1,1,2-Trichloroethane	0.00	97	0	N.D.		
58)	Toluene	12.86	91	71727	1.777	ng	99
59)	2-Hexanone	13.08	43	4220	N.D.		
60)	Dibromochloromethane	0.00	129	0	N.D.		
61)	1,2-Dibromoethane	0.00	107	0	N.D.		
62)	n-Butyl Acetate	13.68	43	2190	N.D.		
63)	n-Octane	13.79	57	1049	N.D.		
64)	Tetrachloroethene	13.94	166	123444	9.449	ng	99
65)	Chlorobenzene	14.62	112	1050	N.D.		
66)	Ethylbenzene	14.99	91	10275	N.D.		
67)	m- & p-Xylenes	15.16	91	25022	0.731	ng	100
68)	Bromoform	0.00	173	0	N.D.		
69)	Styrene	15.53	104	2540	N.D.		
70)	o-Xylene	15.63	91	9918	N.D.		
71)	n-Nonane	15.84	43	3102	N.D.		
72)	1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74)	Cumene	16.21	105	953	N.D.		
75)	alpha-Pinene	16.58	93	13295	0.548	ng	69
76)	n-Propylbenzene	16.70	91	3875	N.D.		
77)	3-Ethyltoluene	16.79	105	7608	N.D.		
78)	4-Ethyltoluene	16.84	105	2812	N.D.		
79)	1,3,5-Trimethylbenzene	16.91	105	3989	N.D.		
80)	alpha-Methylstyrene	0.00	118	0	N.D.		
81)	2-Ethyltoluene	17.09	105	3467	N.D.		
82)	1,2,4-Trimethylbenzene	17.30	105	10484	N.D.		
83)	n-Decane	17.40	57	6404	N.D.		
84)	Benzyl Chloride	17.31	91	1123	N.D.		
85)	1,3-Dichlorobenzene	17.45	146	525	N.D.		
86)	1,4-Dichlorobenzene	17.52	146	1434	N.D.		
87)	sec-Butylbenzene	17.56	105	515	N.D.		
88)	4-Isopropyltoluene (p-...)	17.71	119	2458	N.D.		
89)	1,2,3-Trimethylbenzene	17.71	105	2987	N.D.		
90)	1,2-Dichlorobenzene	0.00	146	0	N.D.		
91)	d-Limonene	17.85	68	2585	N.D.		
92)	1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93)	n-Undecane	18.61	57	2607	N.D.		
94)	1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95)	Naphthalene	19.58	128	2906	N.D.		
96)	n-Dodecane	19.58	57	870	N.D.		
97)	Hexachlorobutadiene	0.00	225	0	N.D.		
98)	Cyclohexanone	15.33	55	2331	N.D.		
99)	tert-Butylbenzene	17.30	119	1526	N.D.		
100)	n-Butylbenzene	18.11	91	1220	N.D.		

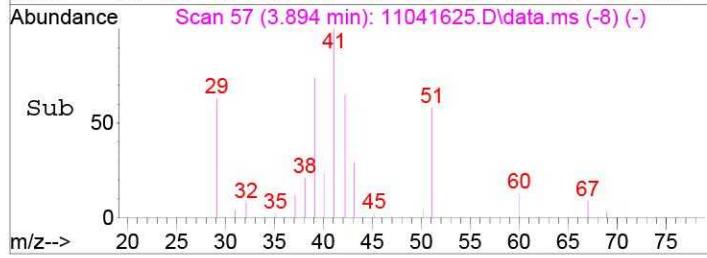
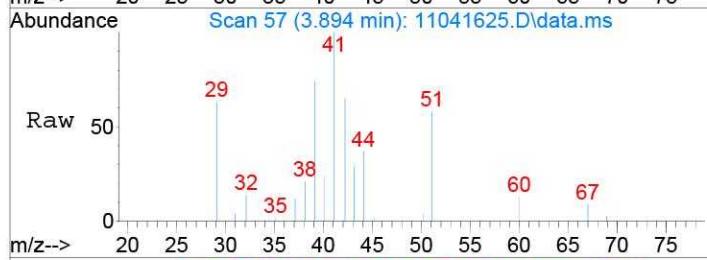
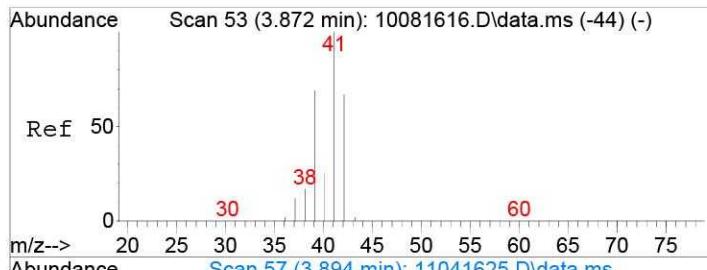
(#= qualifier out of range (m) = manual integration (+) = signals summed

Data File: I:\MS08\Data\2016_11\04\11041625.D
 Acq On : 4 Nov 2016 19:28
 Sample : P1605059-006 (1000mL)
 Misc : S29-10041602
 ALS Vial : 8 Sample Multiplier: 1

Operator: WA

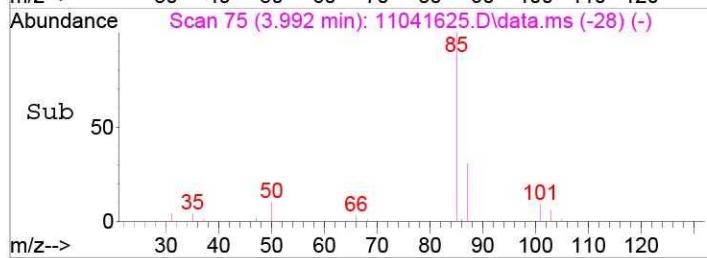
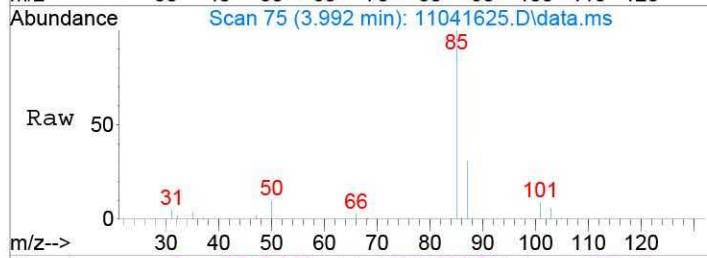
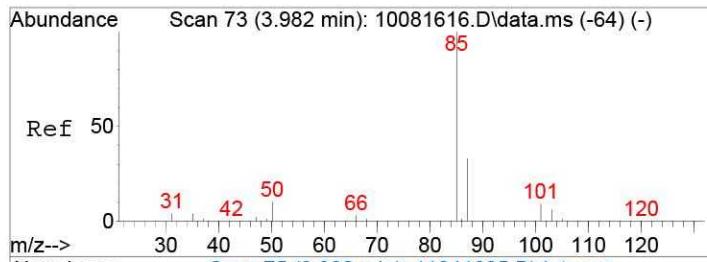
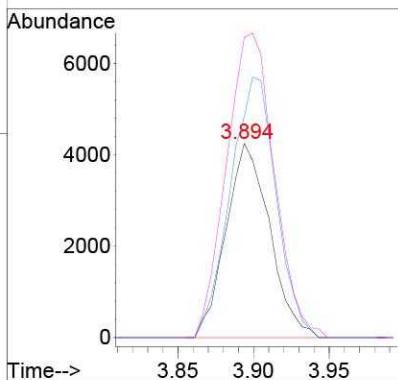
Quant Time: Nov 07 16:18:27 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M





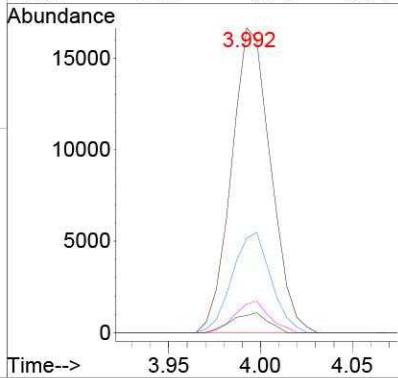
#2
 Propene
 Concen: 0.83 ng
 RT: 3.89 min Scan# 57
 Delta R.T. 0.016 min
 Lab File: 11041625.D
 Acq: 4 Nov 2016 19:28

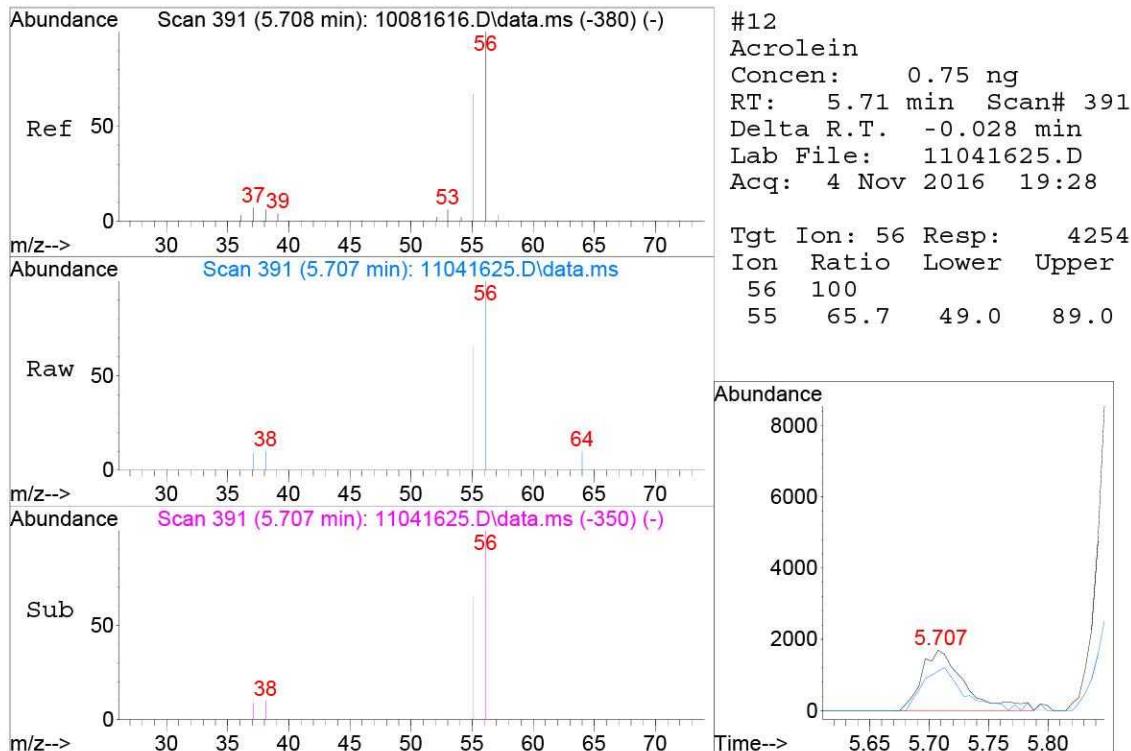
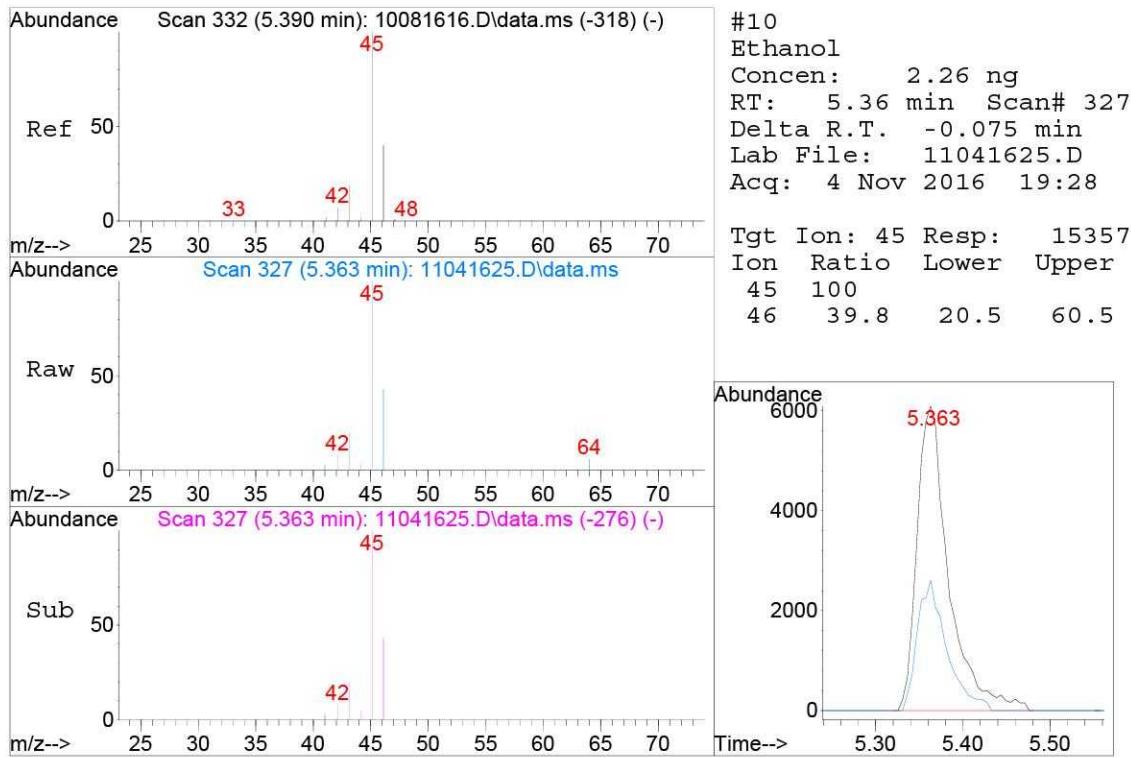
Tgt Ion: 42 Resp: 8535
 Ion Ratio Lower Upper
 42 100
 39 141.1 83.4 123.4#
 41 171.7 128.8 168.8#

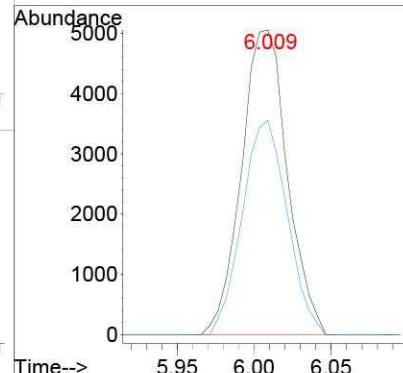
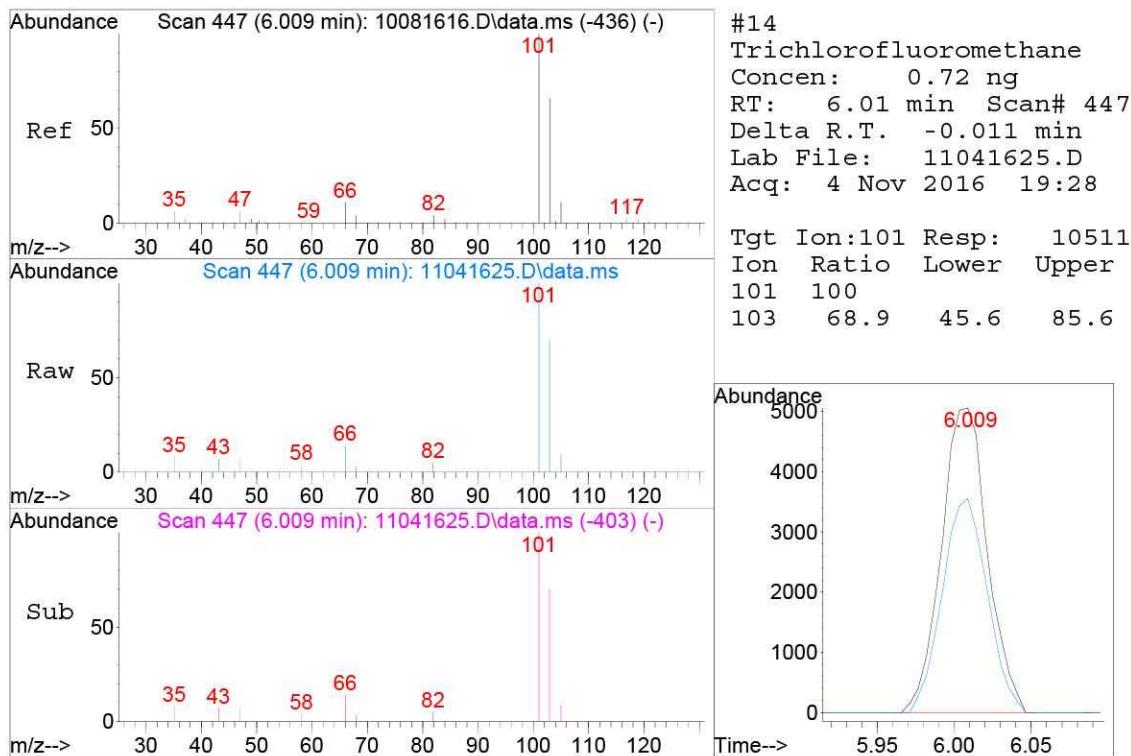
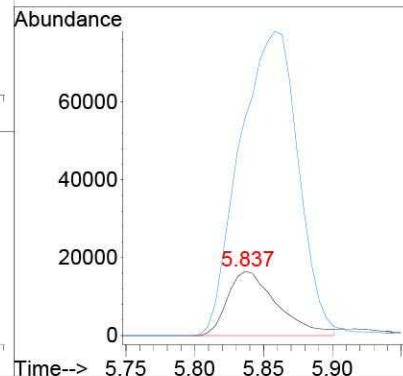
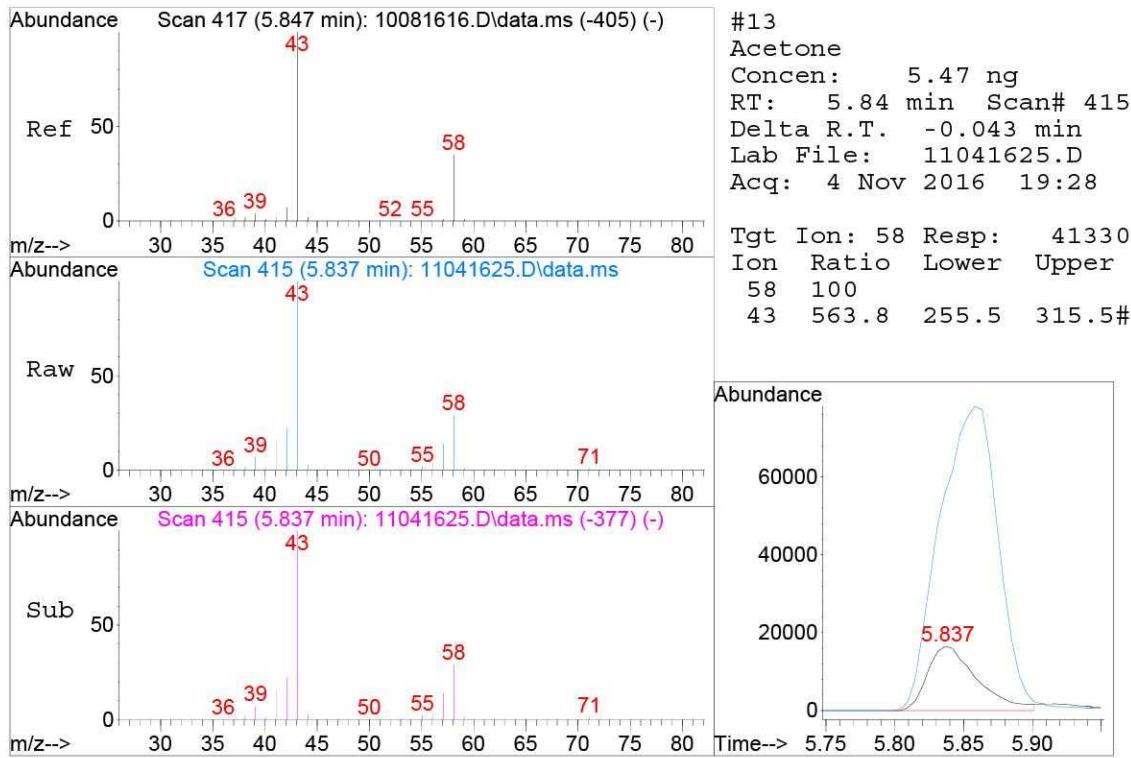


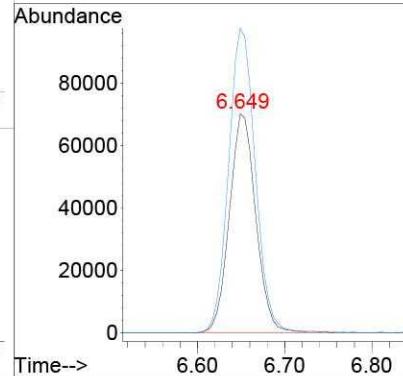
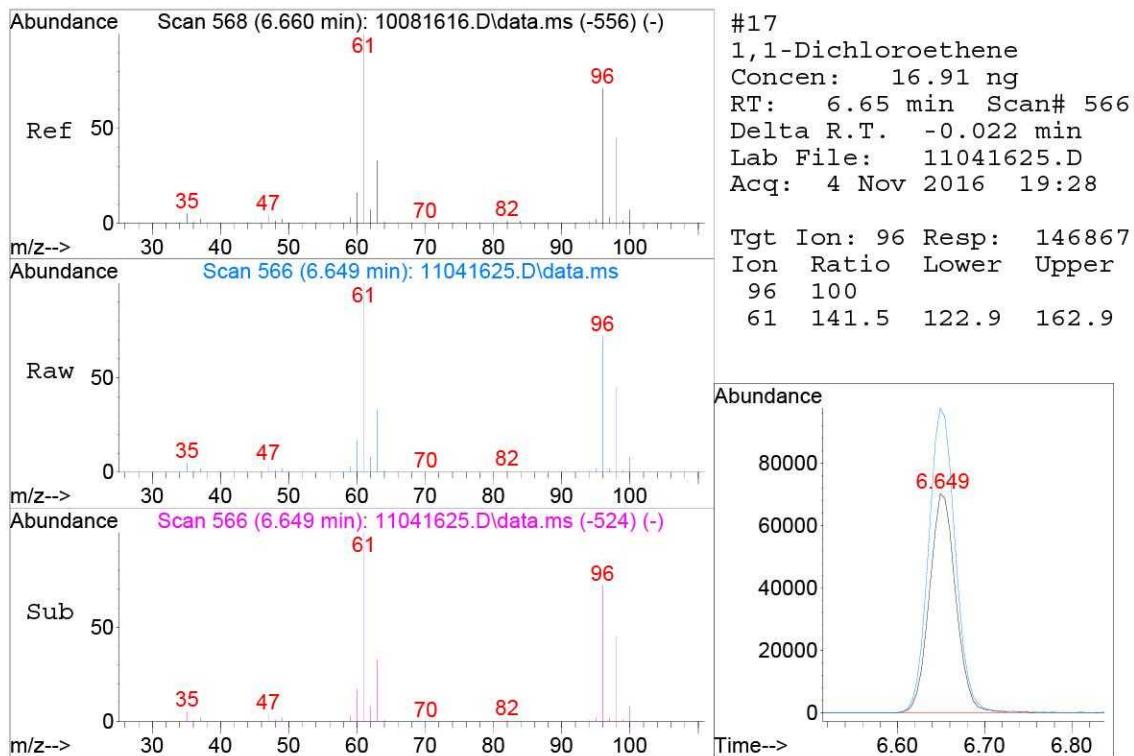
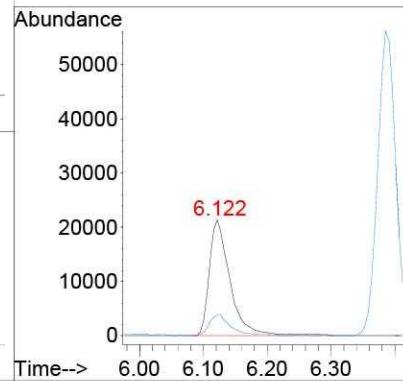
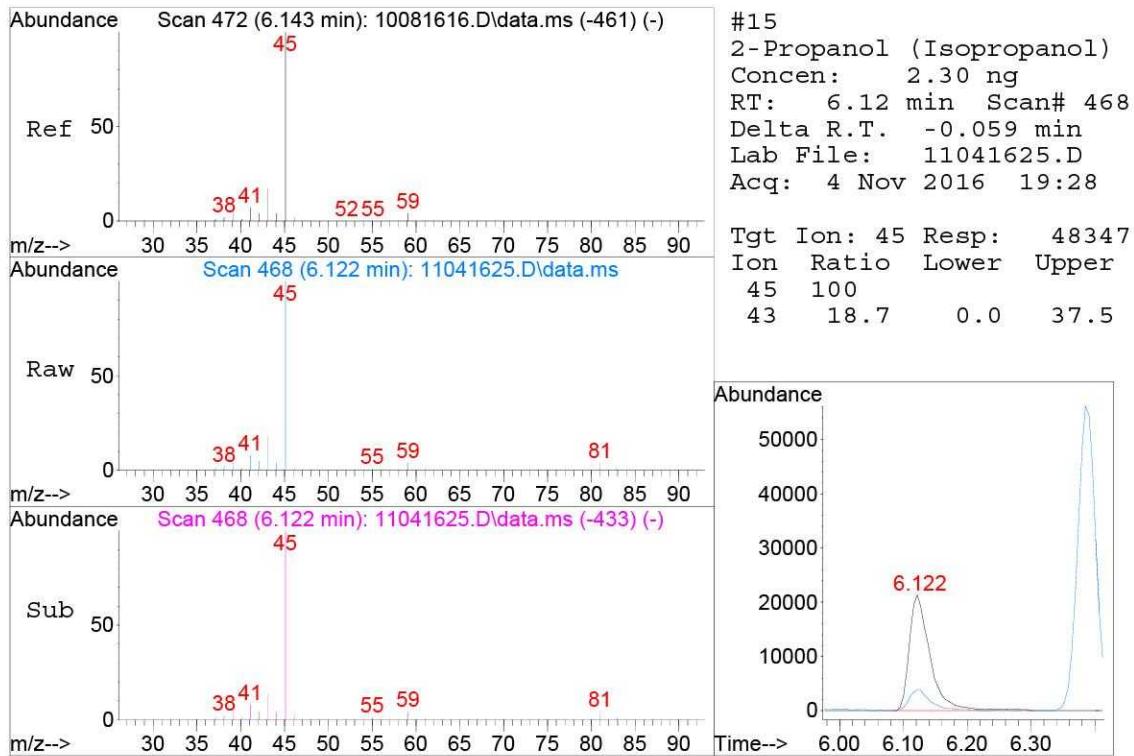
#3
 Dichlorodifluoromethane (CFC 12)
 Concen: 1.52 ng
 RT: 3.99 min Scan# 75
 Delta R.T. 0.005 min
 Lab File: 11041625.D
 Acq: 4 Nov 2016 19:28

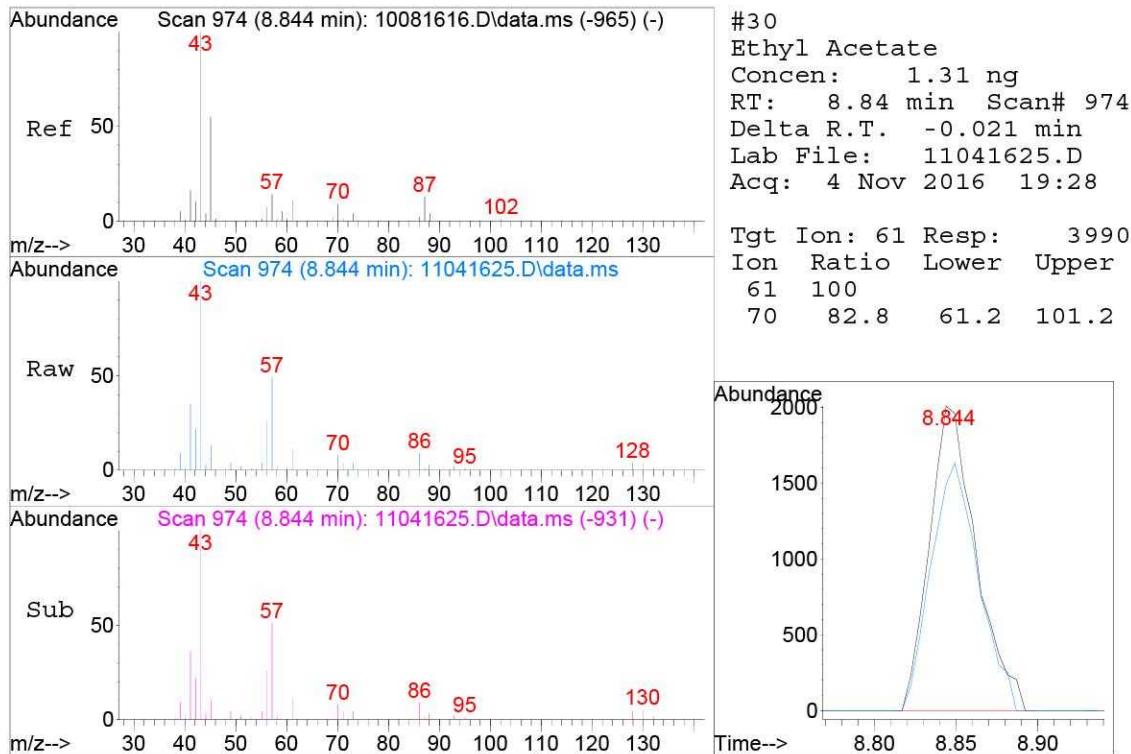
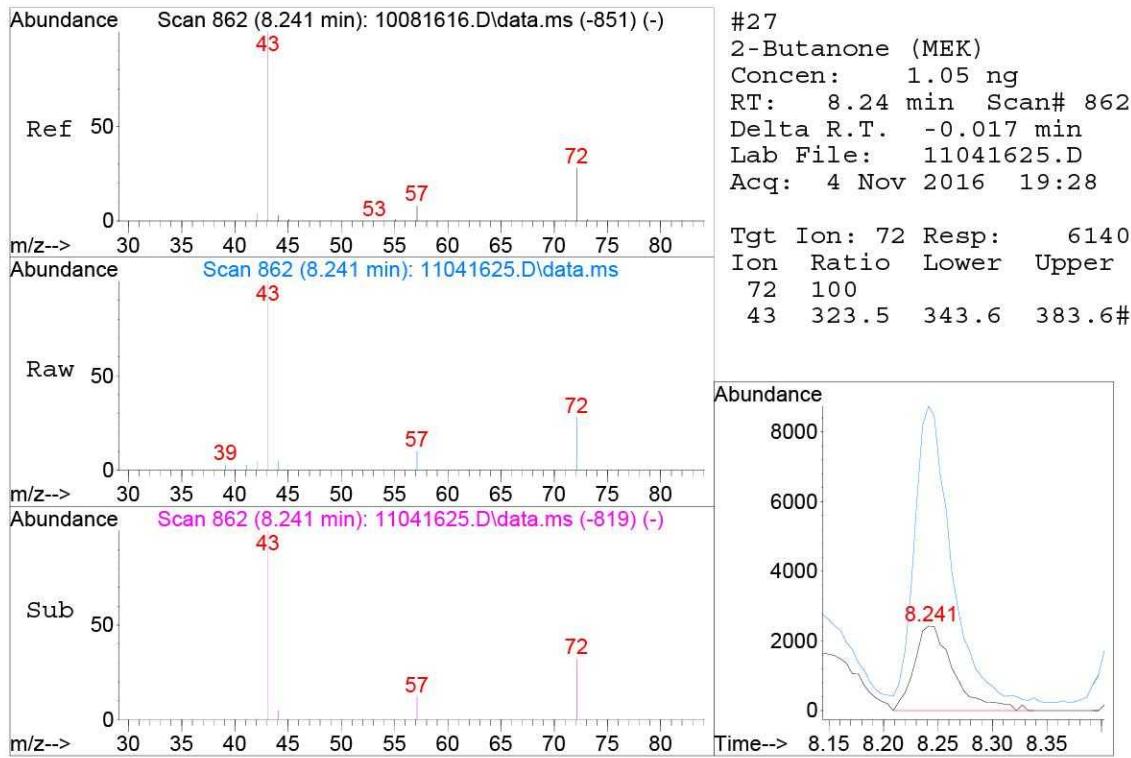
Tgt Ion: 85 Resp: 24694
 Ion Ratio Lower Upper
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 87 32.4 12.8 52.8
 101 9.1 0.0 29.7
 103 5.9 0.0 26.4

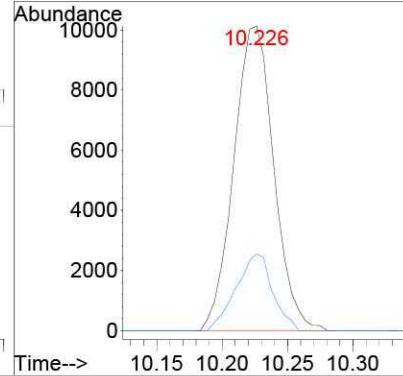
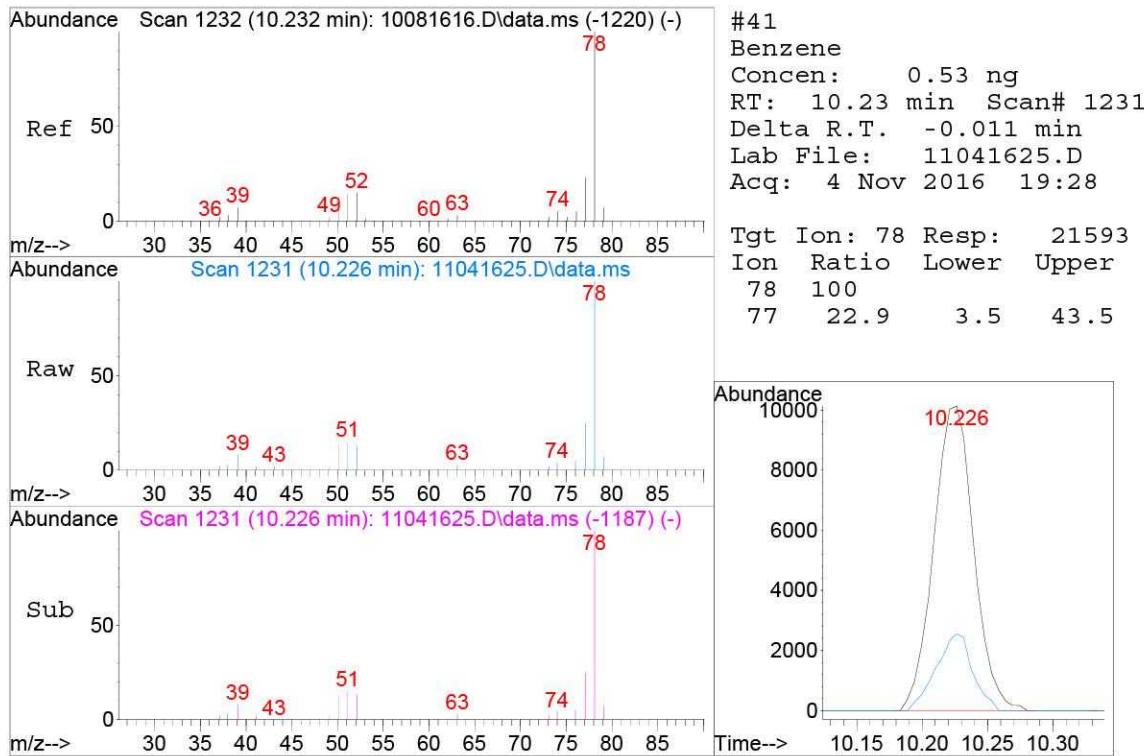
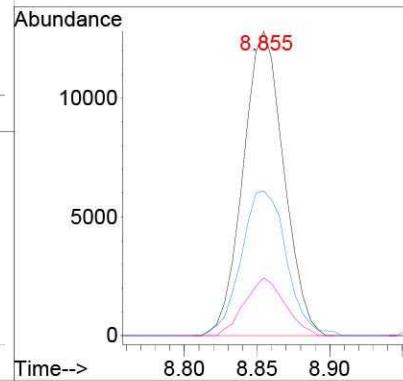
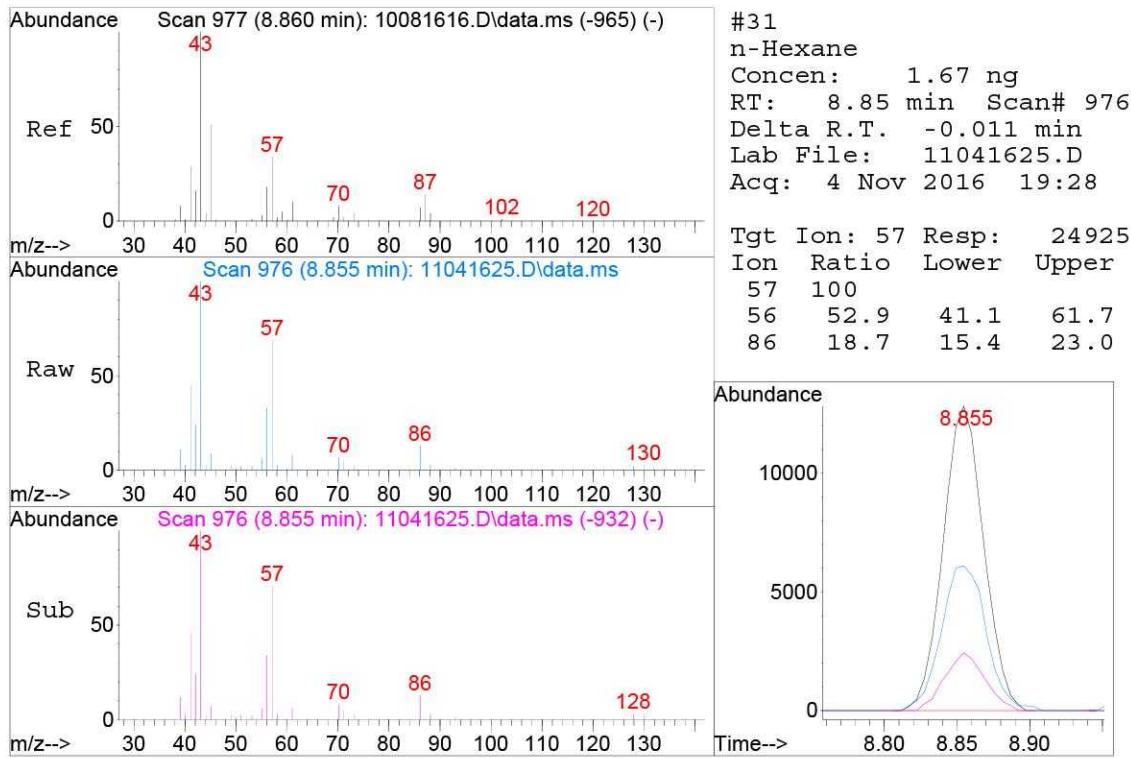


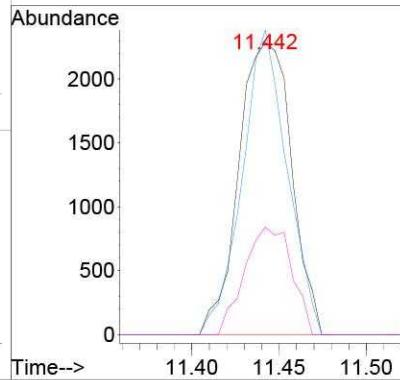
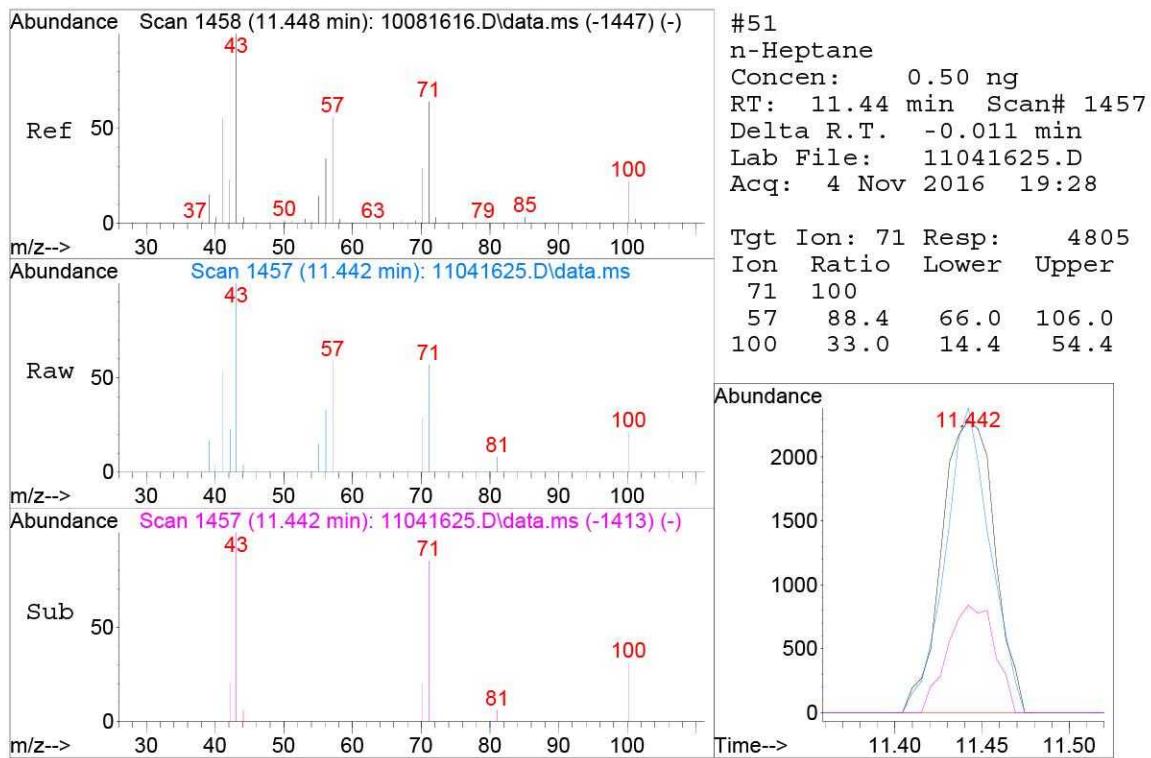
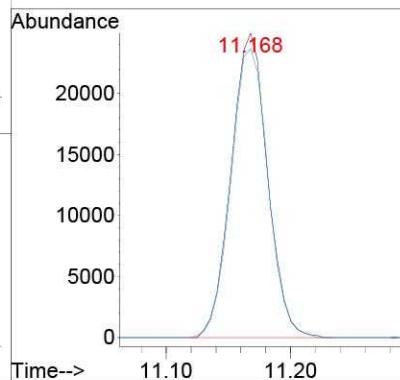
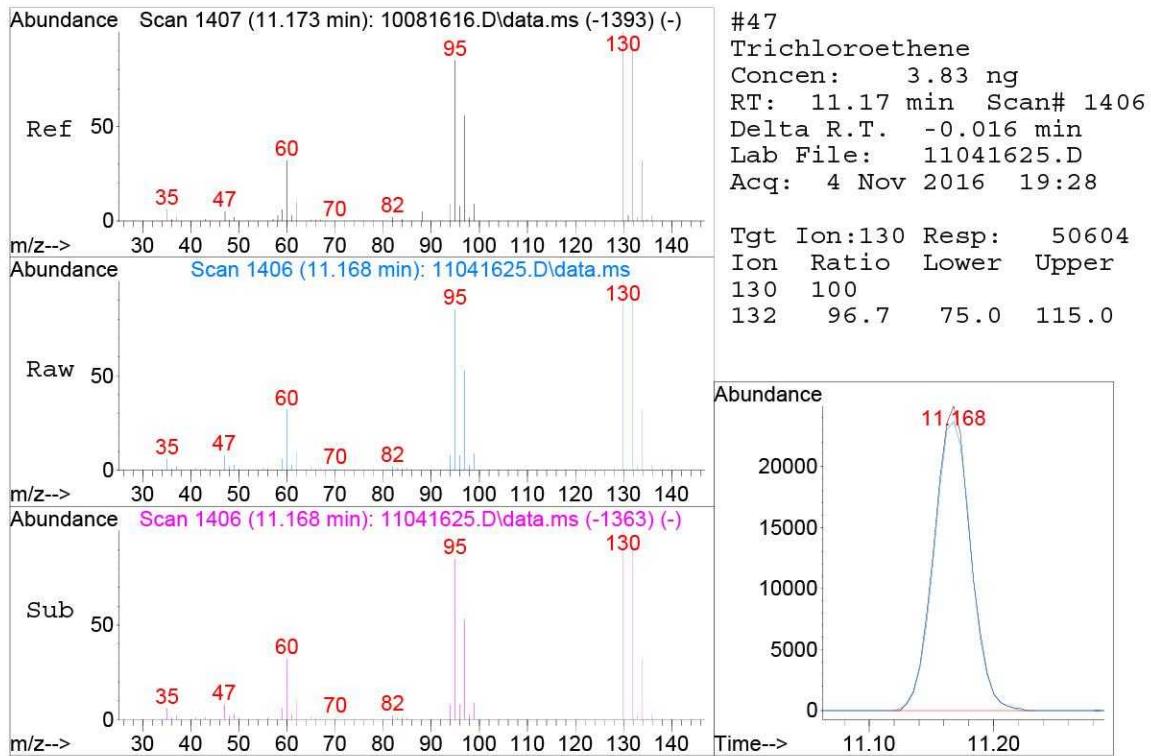


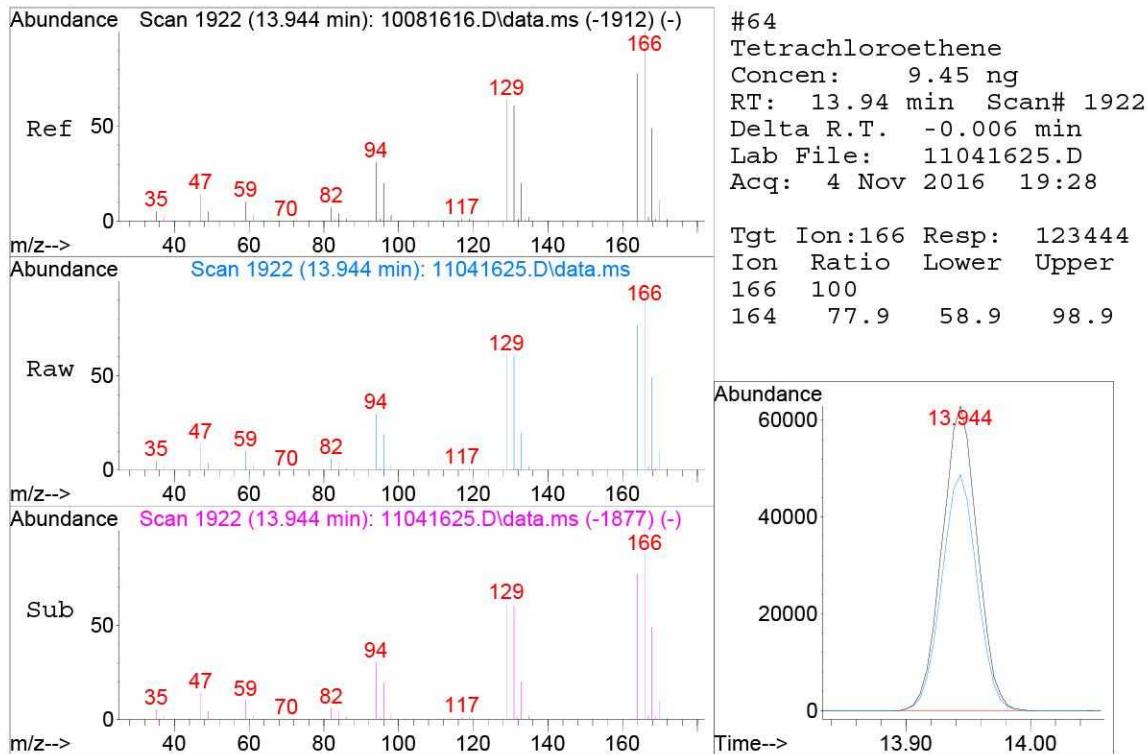
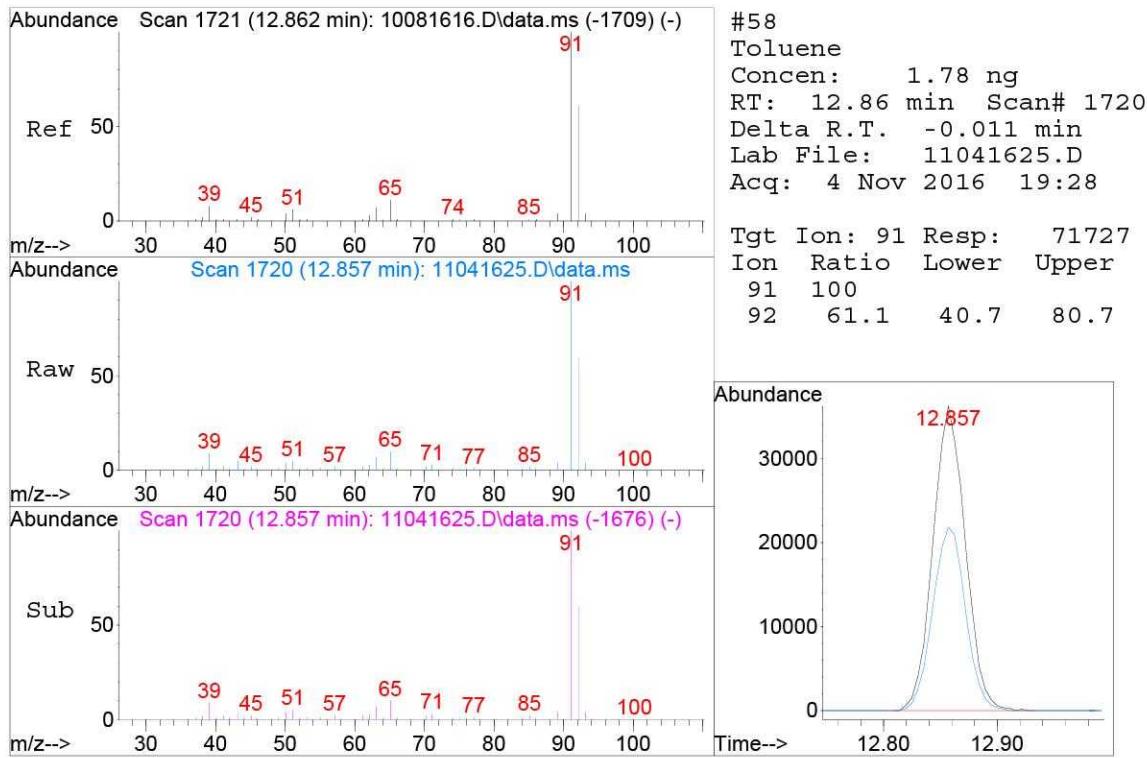


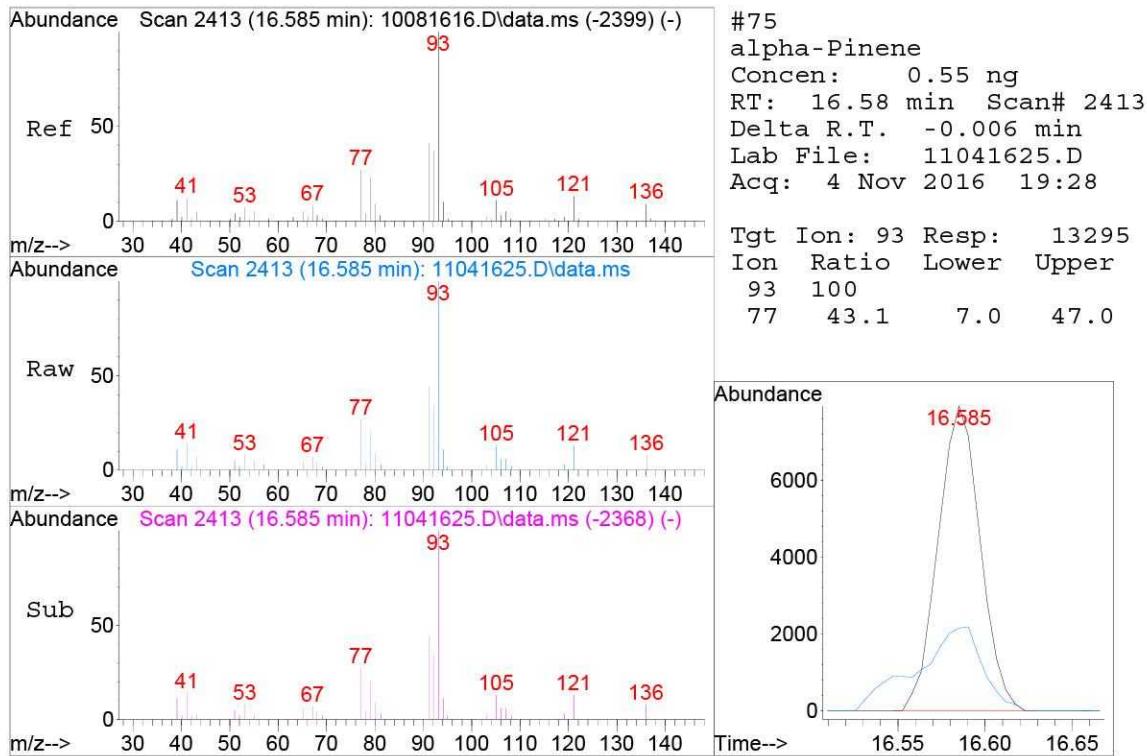
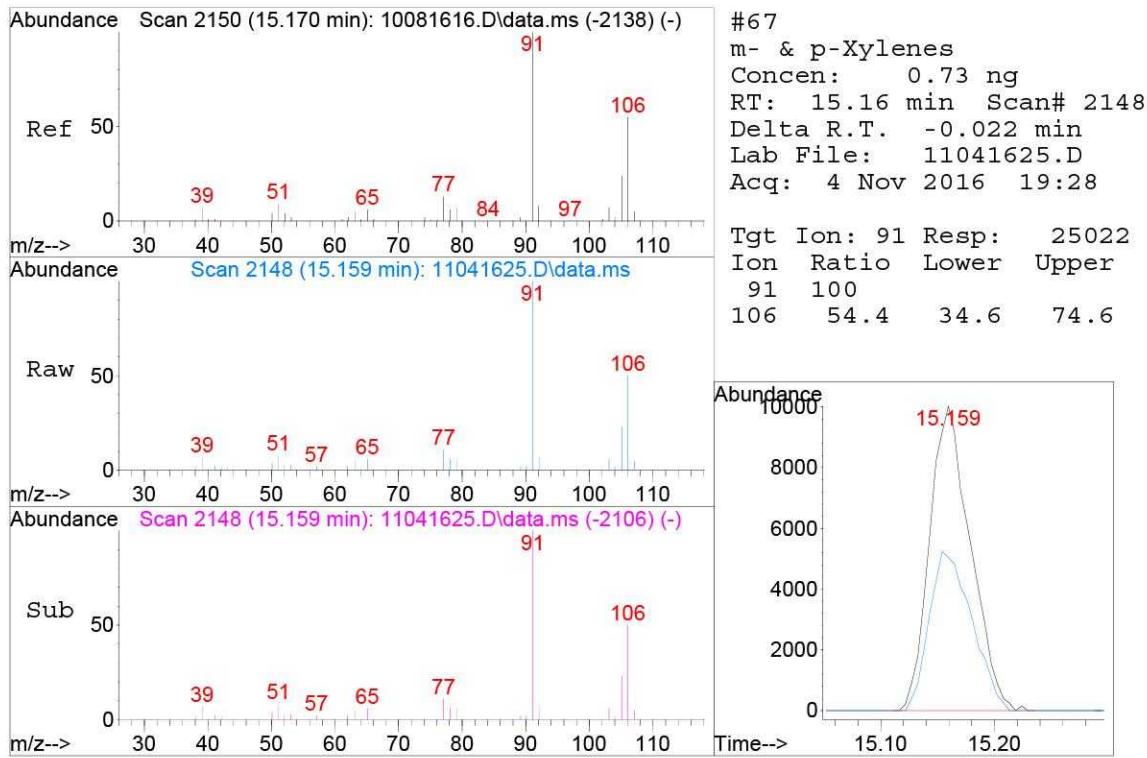












Data File: I:\MS08\Data\2016_11\04\11041626.D
 Acq On : 4 Nov 2016 20:01
 Sample : P1605059-007 (1000mL)
 Misc : S29-10041602
 ALS Vial : 13 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 07 16:19:49 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane (IS1)	8.78	130	110020	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	10.53	114	524069	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.56	82	213250	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.48	65	140065	12.711	ng	-0.02
Spiked Amount	12.500	Range	70 - 130	Recovery	=	101.68%
57) Toluene-d8 (SS2)	12.77	98	538004	12.680	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	101.44%
73) Bromofluorobenzene (SS3)	16.07	174	217145	12.386	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	99.12%

Target Compounds

					Qvalue
2) Propene	3.90	42	6691	0.640	ng # 70
3) Dichlorodifluoromethan...	4.00	85	26992	1.629	ng 99
4) Chloromethane	4.21	50	1846	N.D.	
5) 1,2-Dichloro-1,1,2,2-t...	4.35	135	631	N.D.	
6) Vinyl Chloride	0.00	62	0	N.D.	
7) 1,3-Butadiene	0.00	54	0	N.D.	
8) Bromomethane	0.00	94	0	N.D.	
9) Chloroethane	0.00	64	0	N.D.	
10) Ethanol	5.36	45	12326	1.773	ng 97
11) Acetonitrile	5.59	41	2955	N.D.	
12) Acrolein	5.71	56	705	N.D.	
13) Acetone	5.84	58	49394	6.387	ng # 1
14) Trichlorofluoromethane	6.00	101	11879	0.792	ng 98
15) 2-Propanol (Isopropanol)	6.13	45	13323	0.620	ng 83
16) Acrylonitrile	6.39	53	2004	N.D.	
17) 1,1-Dichloroethene	6.65	96	5968	0.672	ng 99
18) 2-Methyl-2-Propanol (t...	6.75	59	1351	N.D.	
19) Methylene Chloride	6.79	84	1573	N.D.	
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D. d	
21) Trichlorotrifluoroethane	7.06	151	2816	N.D.	
22) Carbon Disulfide	7.05	76	4735	N.D.	
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.	
24) 1,1-Dichloroethane	7.88	63	539	N.D.	
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	
26) Vinyl Acetate	0.00	86	0	N.D. d	
27) 2-Butanone (MEK)	8.24	72	5438	0.907	ng 98
28) cis-1,2-Dichloroethene	8.64	61	2715	N.D.	
29) Diisopropyl Ether	8.91	87	2199	N.D.	
30) Ethyl Acetate	8.85	61	4032	1.296	ng 90
31) n-Hexane	8.85	57	30240	1.983	ng 98
32) Chloroform	8.91	83	22170	1.458	ng 99
34) Tetrahydrofuran (THF)	9.29	72	518	N.D.	
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.	
36) 1,2-Dichloroethane	0.00	62	0	N.D.	
38) 1,1,1-Trichloroethane	9.82	97	2341	N.D.	
39) Isopropyl Acetate	0.00	61	0	N.D.	
40) 1-Butanol	10.15	56	3894	N.D.	
41) Benzene	10.22	78	34826	0.834	ng 99
42) Carbon Tetrachloride	10.36	117	3902	N.D.	
43) Cyclohexane	10.48	84	6531	N.D.	
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.	
45) 1,2-Dichloropropane	0.00	63	0	N.D.	
46) Bromodichloromethane	11.12	83	4006	N.D.	
47) Trichloroethene	11.17	130	8388	0.624	ng 100
48) 1,4-Dioxane	0.00	88	0	N.D.	
49) 2,2,4-Trimethylpentane...	0.00	57	137 of 288	N.D. d	

Data File: I:\MS08\Data\2016_11\04\11041626.D
 Acq On : 4 Nov 2016 20:01
 Sample : P1605059-007 (1000mL)
 Misc : S29-10041602
 ALS Vial : 13 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 07 16:19:49 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

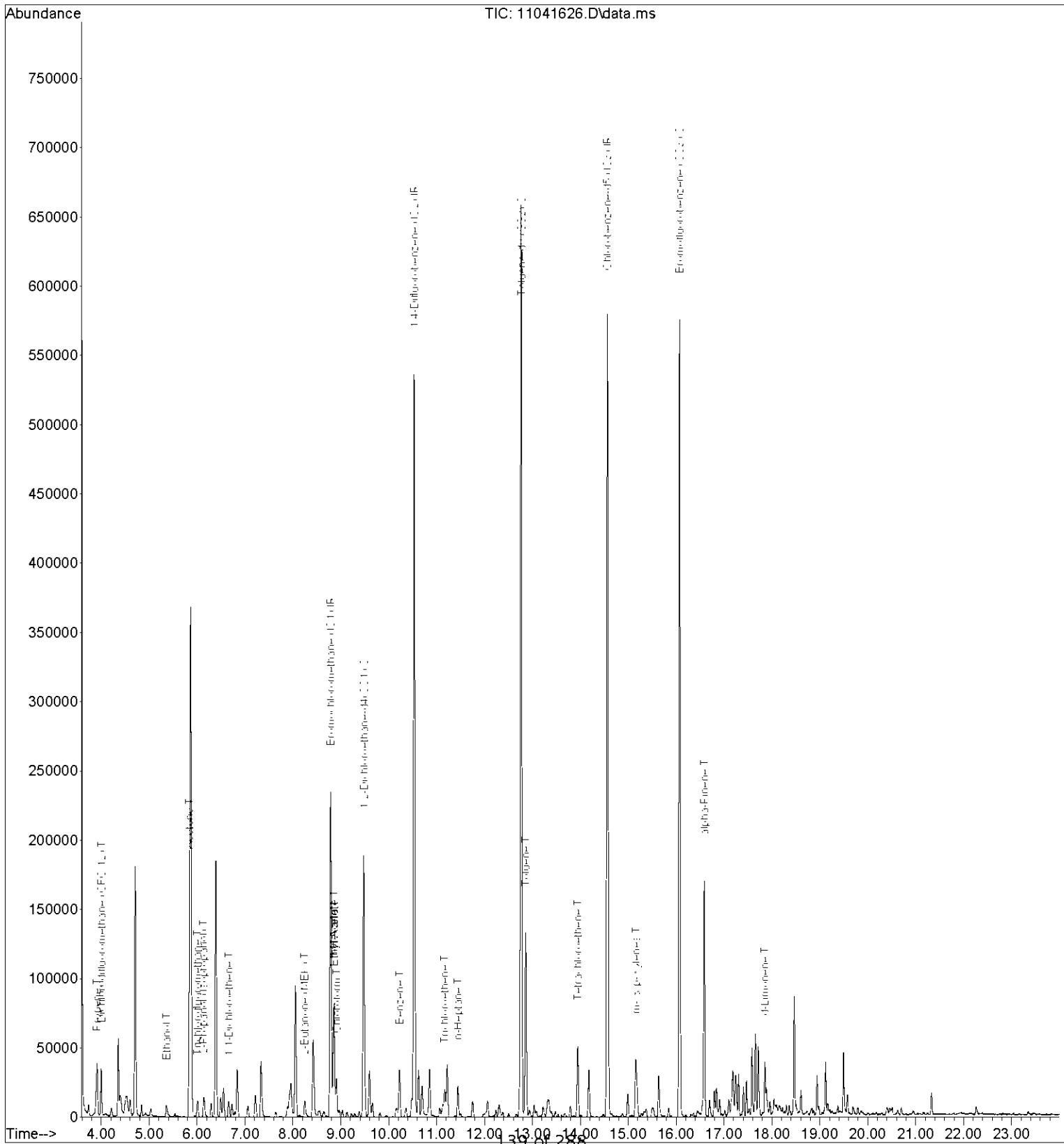
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
50) Methyl Methacrylate	0.00	100	0	N.D.	d	
51) n-Heptane	11.44	71	6011	0.616	ng	97
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.97	58	749	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.86	91	111178	2.669	ng	100
59) 2-Hexanone	13.08	43	3117	N.D.		
60) Dibromochloromethane	13.25	129	420	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.68	43	2349	N.D.		
63) n-Octane	13.79	57	1642	N.D.		
64) Tetrachloroethene	13.94	166	20596	1.528	ng	99
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	14.99	91	15865	N.D.		
67) m- & p-Xylenes	15.15	91	39242	1.111	ng	99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	15.53	104	2785	N.D.		
70) o-Xylene	15.63	91	15688	N.D.		
71) n-Nonane	15.84	43	2723	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	16.20	105	1199	N.D.		
75) alpha-Pinene	16.59	93	73558	2.936	ng	90
76) n-Propylbenzene	16.70	91	4209	N.D.		
77) 3-Ethyltoluene	16.79	105	11865	N.D.		
78) 4-Ethyltoluene	16.83	105	4795	N.D.		
79) 1,3,5-Trimethylbenzene	16.91	105	4109	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.09	105	4856	N.D.		
82) 1,2,4-Trimethylbenzene	17.30	105	15600	N.D.		
83) n-Decane	17.40	57	7179	N.D.		
84) Benzyl Chloride	17.53	91	995	N.D.		
85) 1,3-Dichlorobenzene	17.52	146	1769	N.D.		
86) 1,4-Dichlorobenzene	17.52	146	1769	N.D.		
87) sec-Butylbenzene	17.65	105	2675	N.D.		
88) 4-Isopropyltoluene (p-...)	0.00	119	0	N.D.	d	
89) 1,2,3-Trimethylbenzene	17.71	105	4780	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	17.85	68	9444	0.636	ng	96
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	18.60	57	5225	N.D.		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	19.57	128	8060	N.D.		
96) n-Dodecane	19.58	57	3020	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	15.33	55	1766	N.D.		
99) tert-Butylbenzene	17.30	119	1995	N.D.		
100) n-Butylbenzene	18.10	91	1947	N.D.		

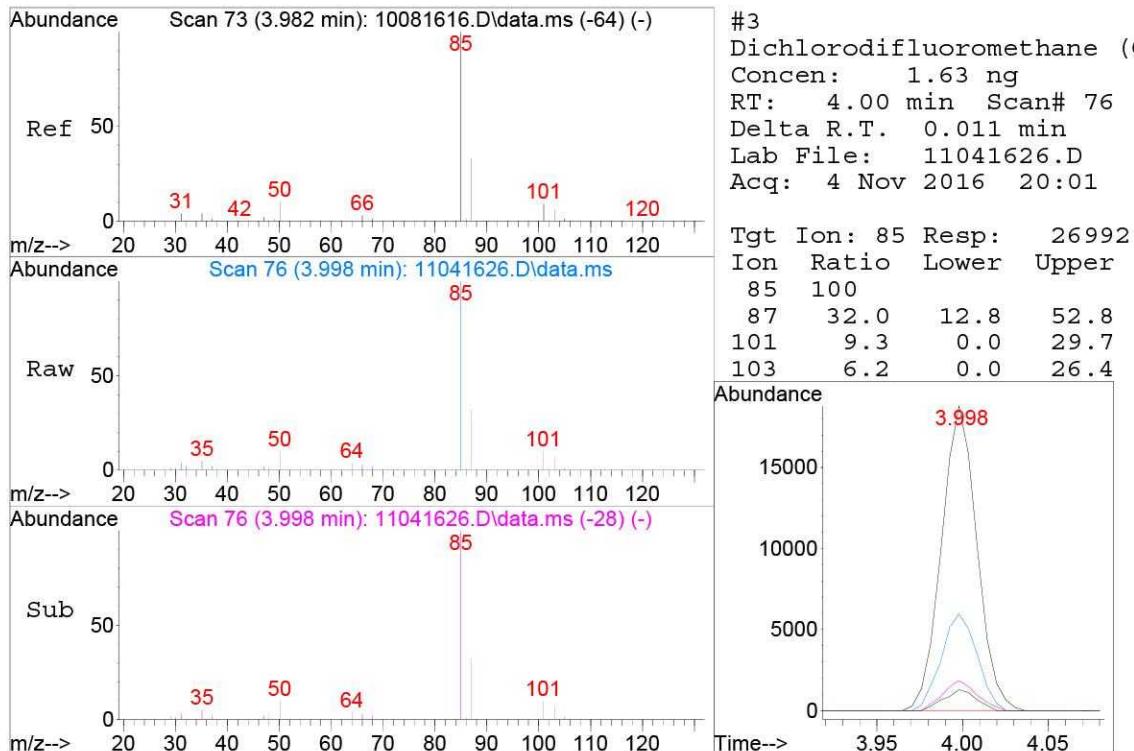
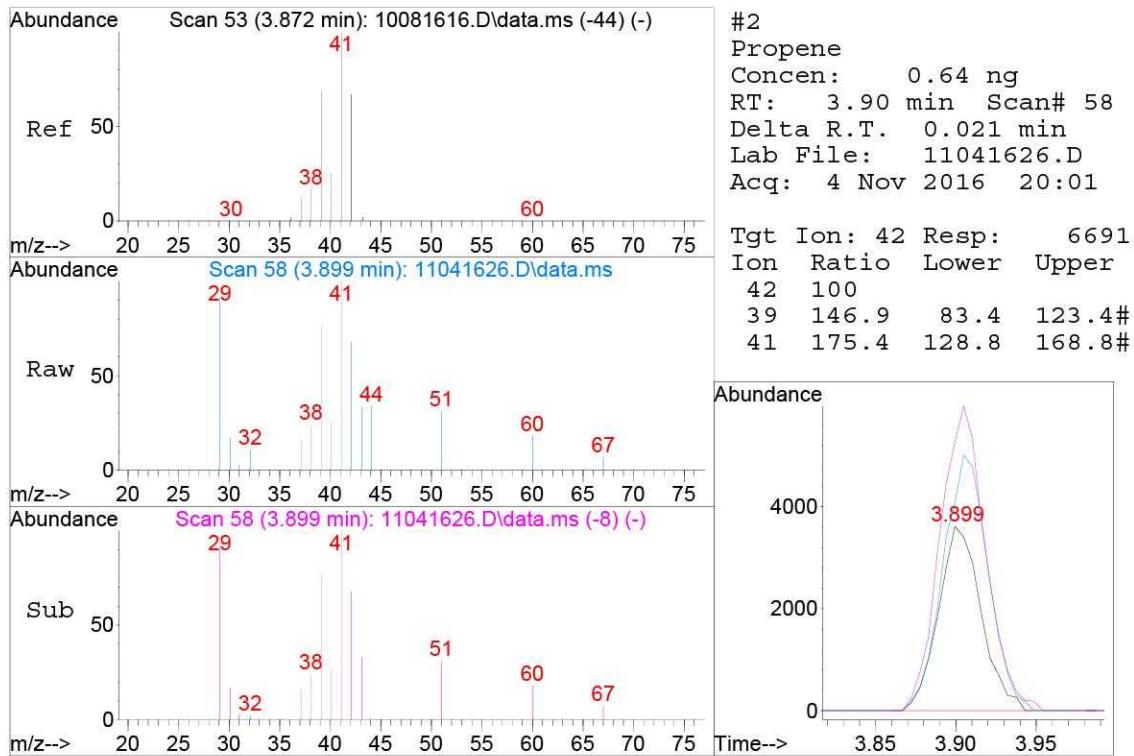
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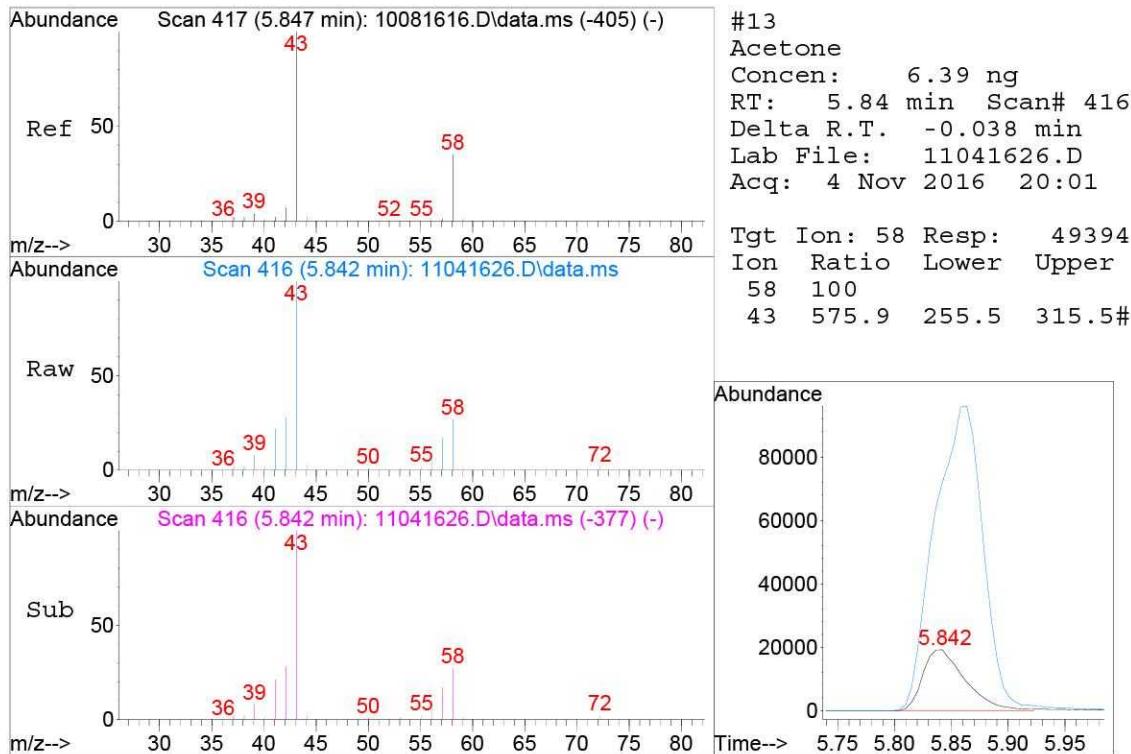
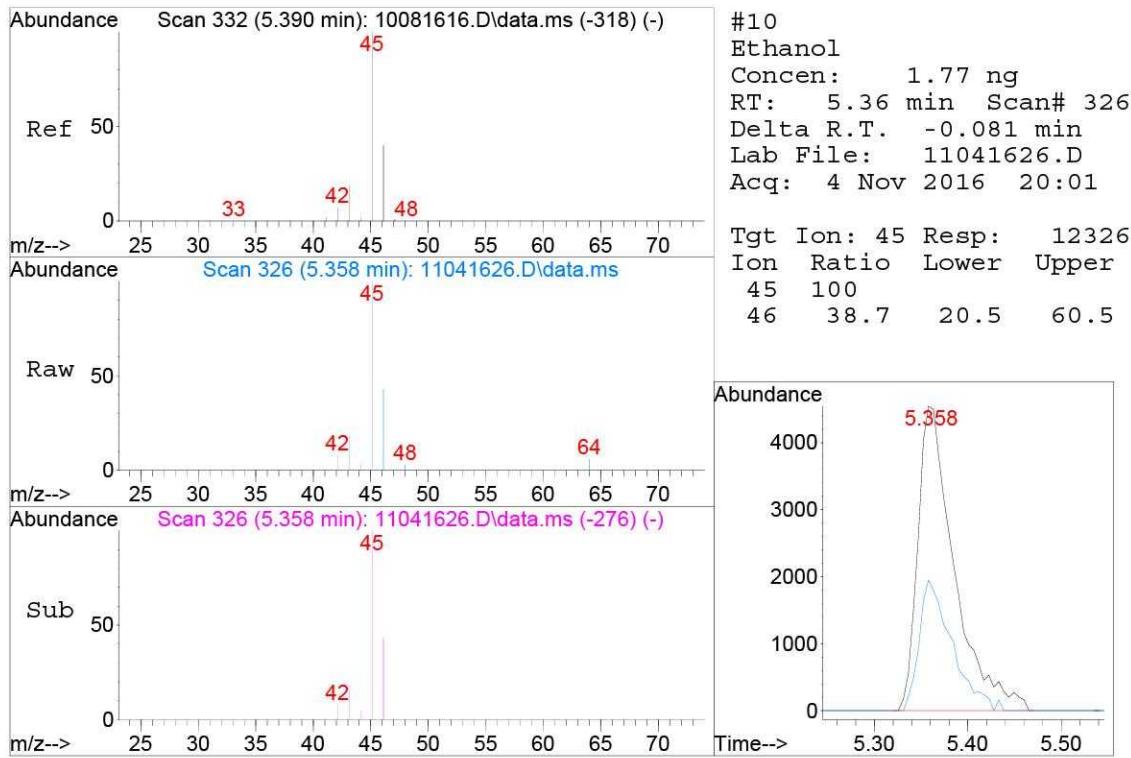
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 Acq On : 4 Nov 2016 20:01
 Sample : P1605059-007 (1000mL)
 Misc : S29-10041602
 ALS Vial : 13 Sample Multiplier: 1

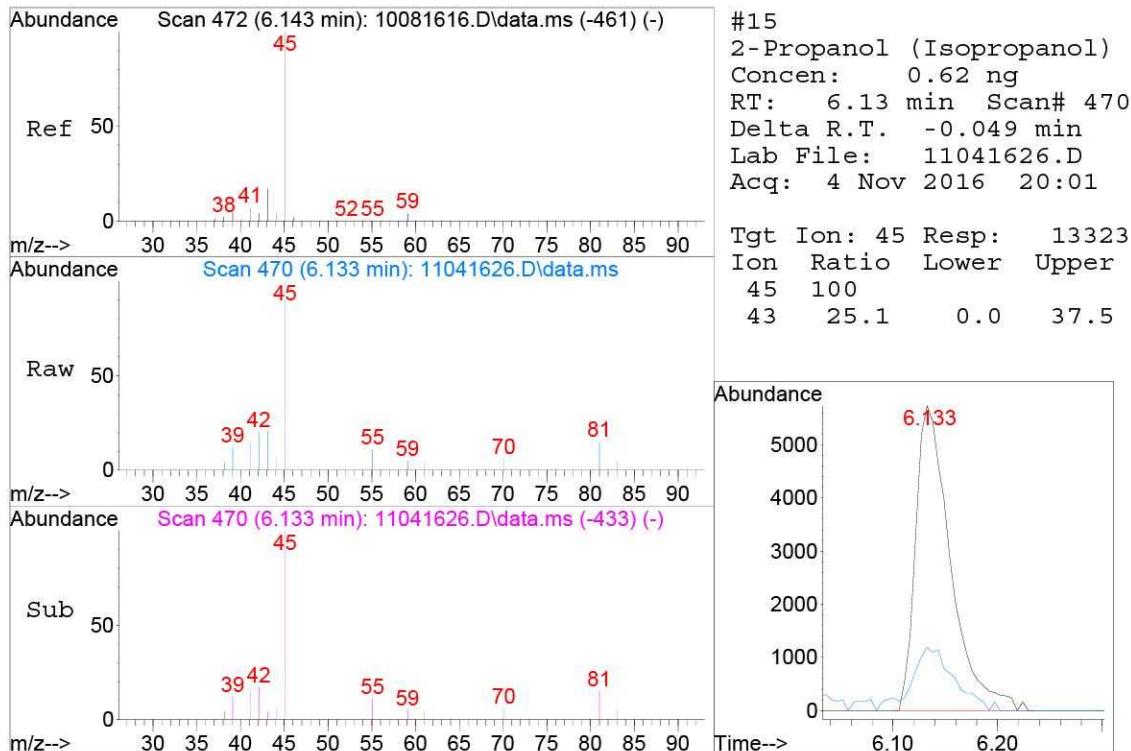
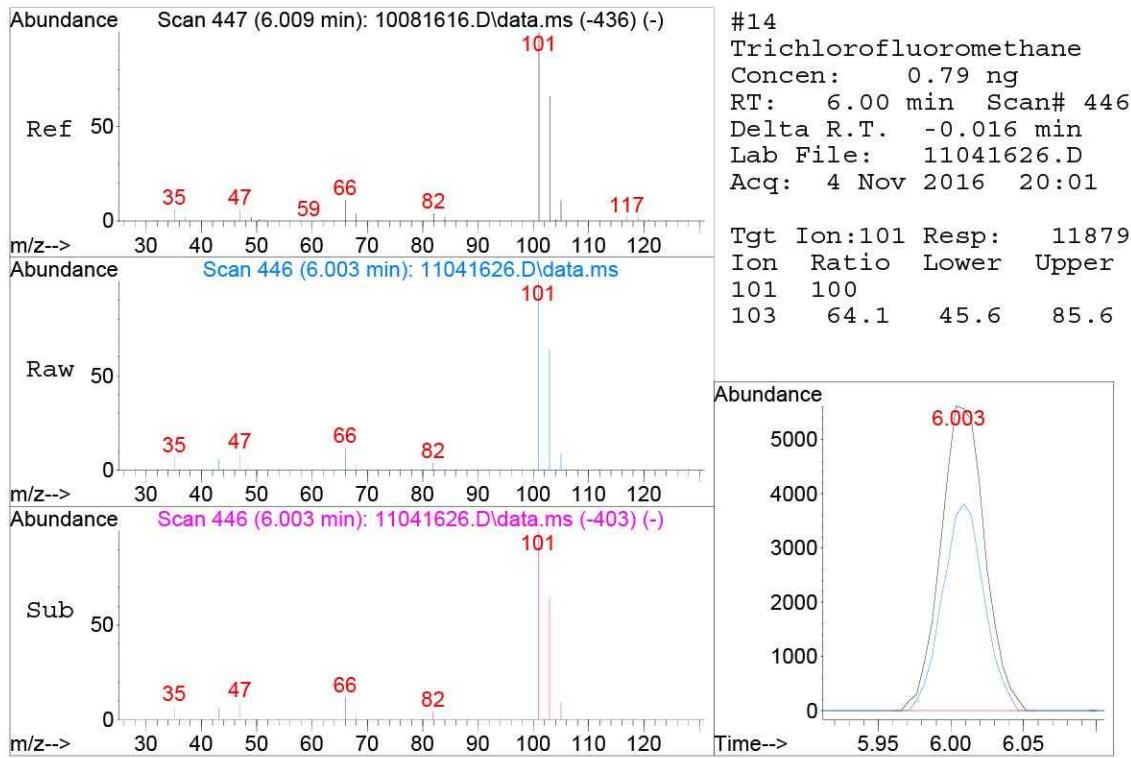
Operator: WA

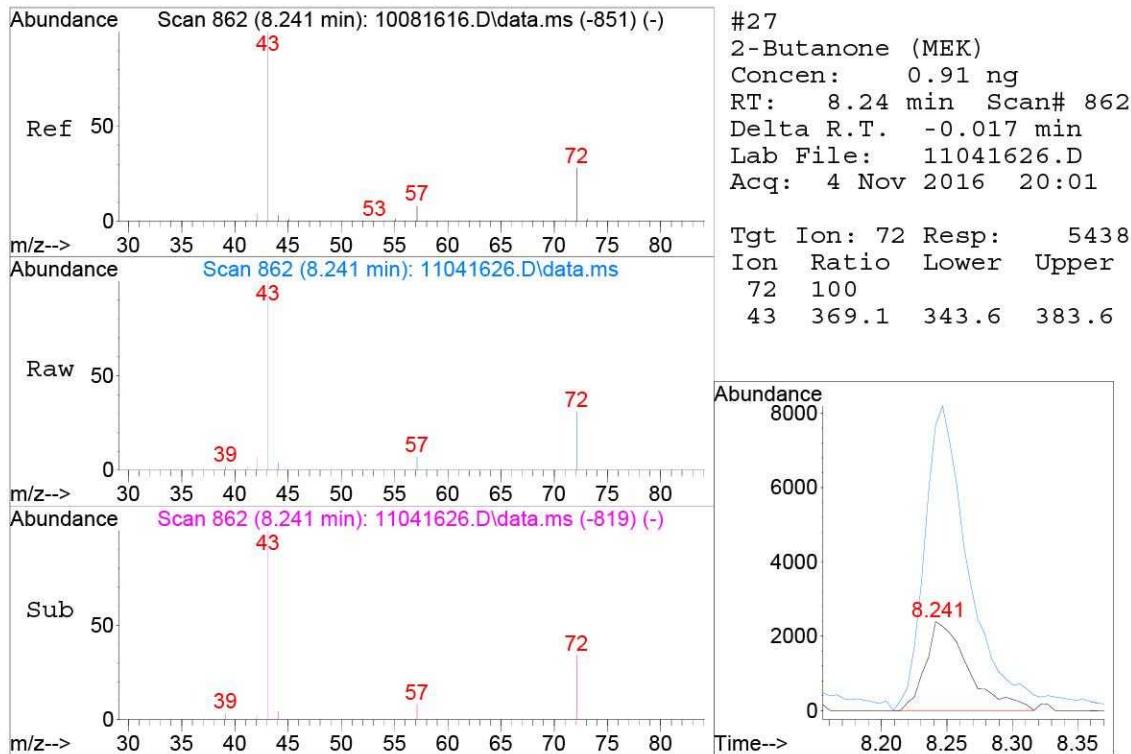
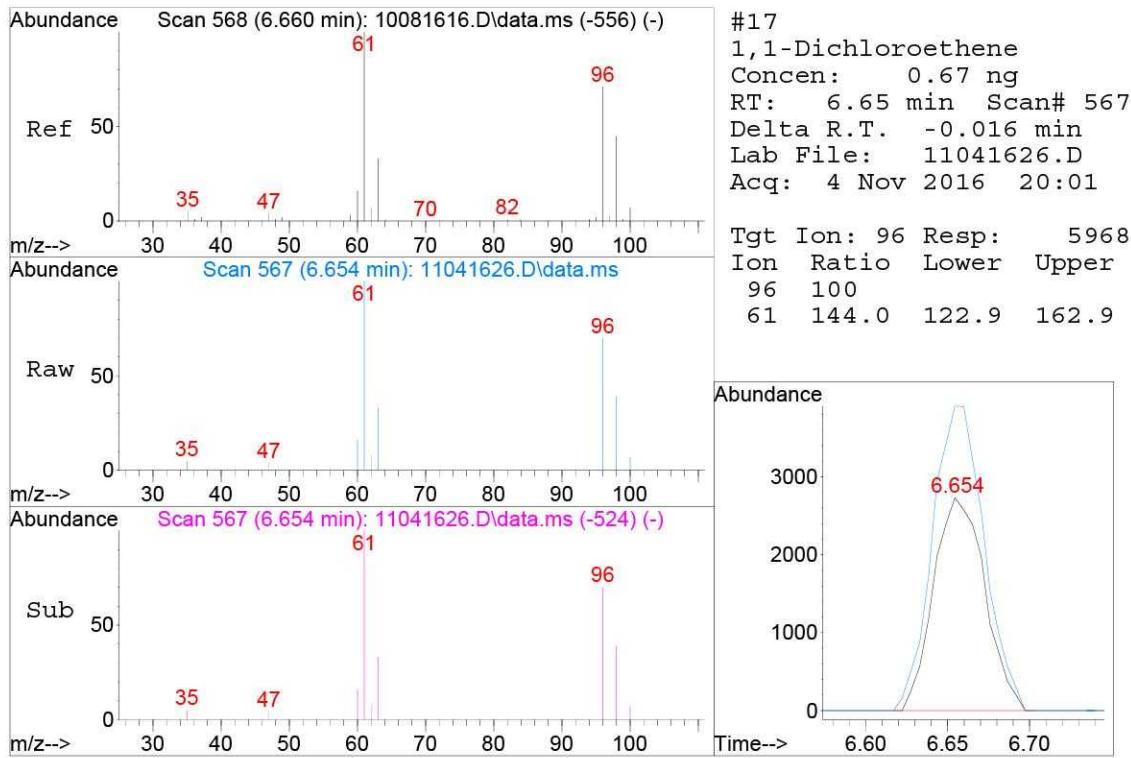
Quant Time: Nov 07 16:19:49 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

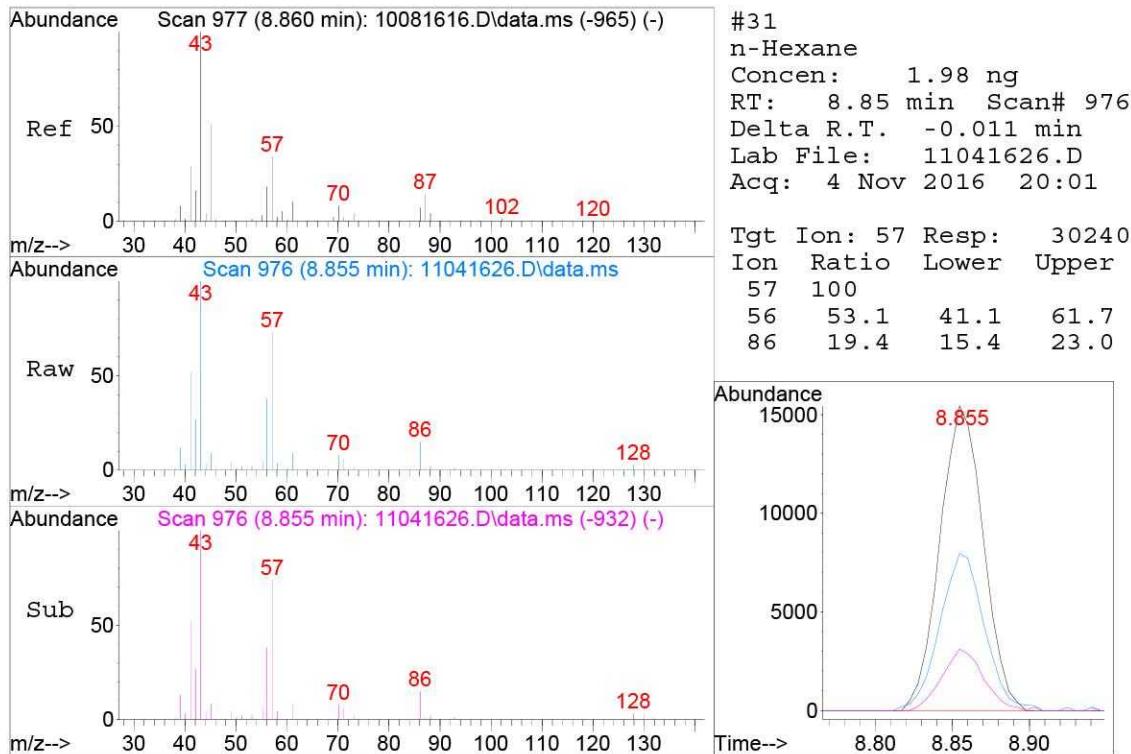
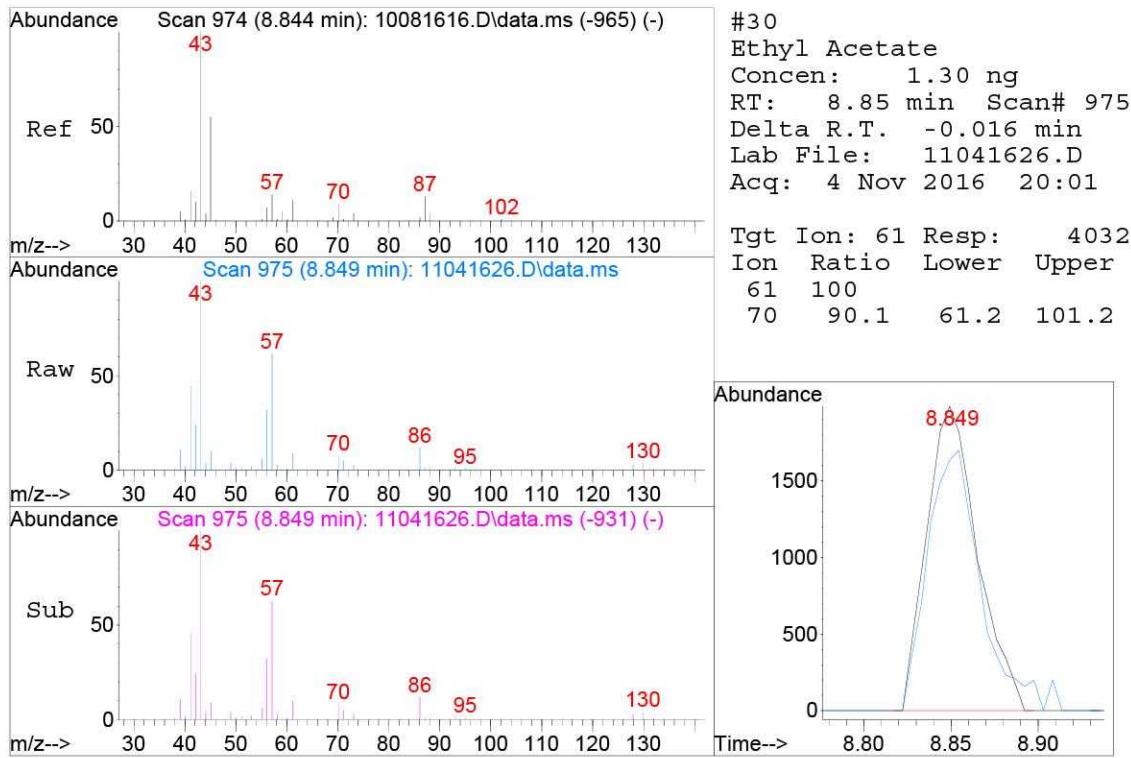


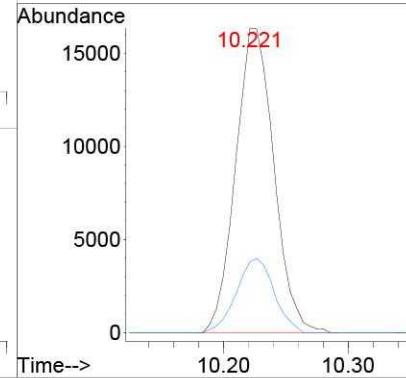
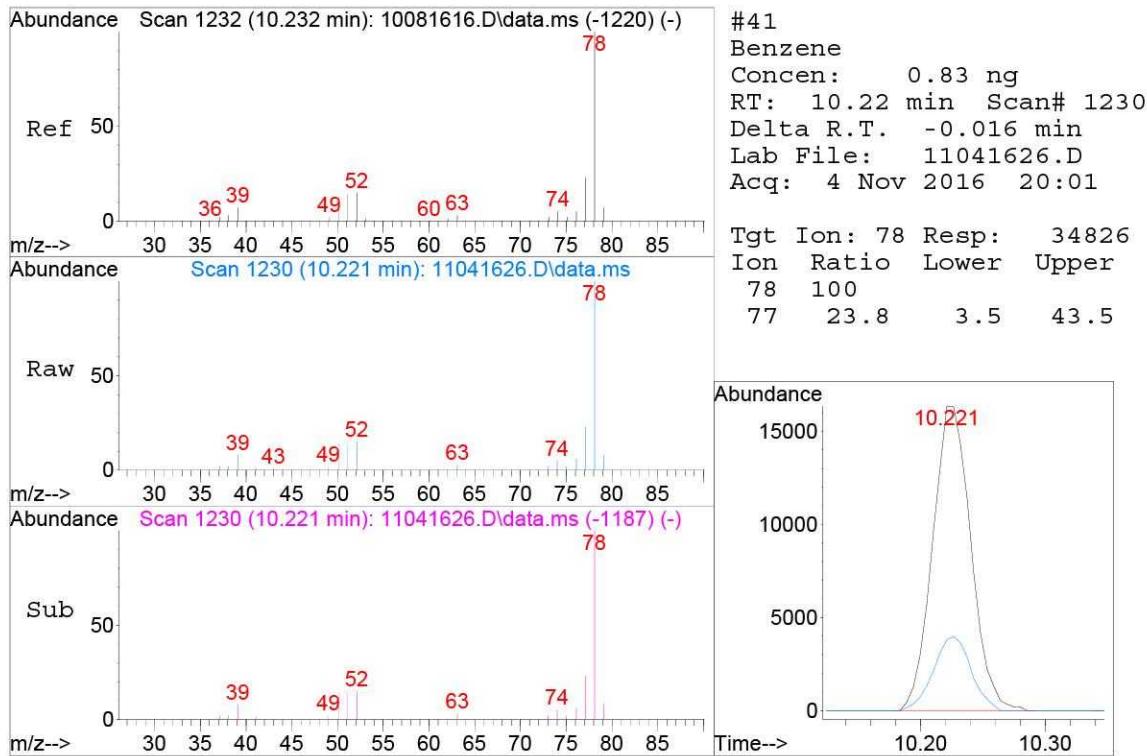
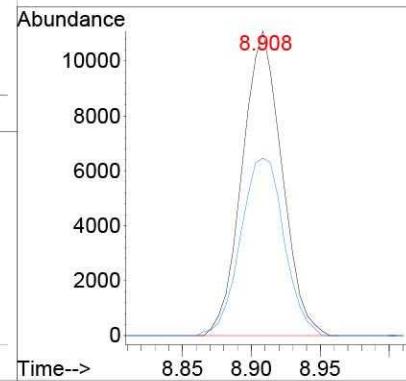
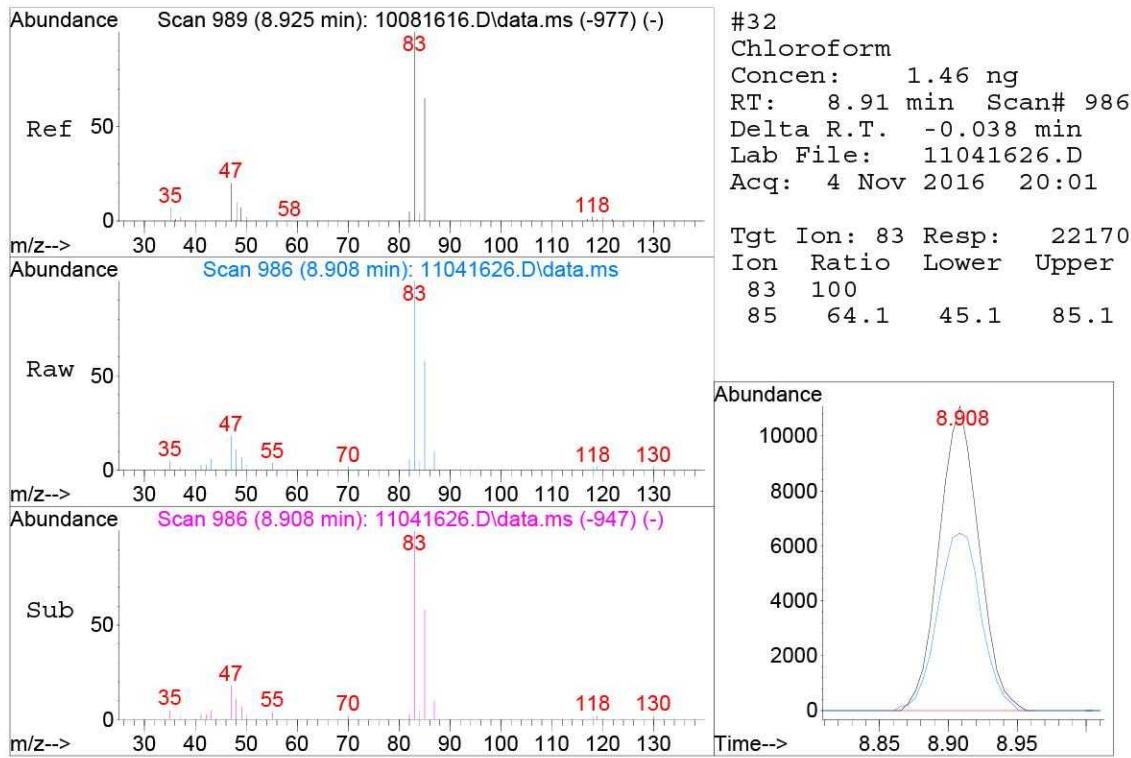


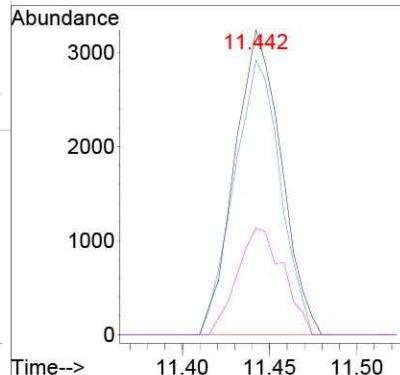
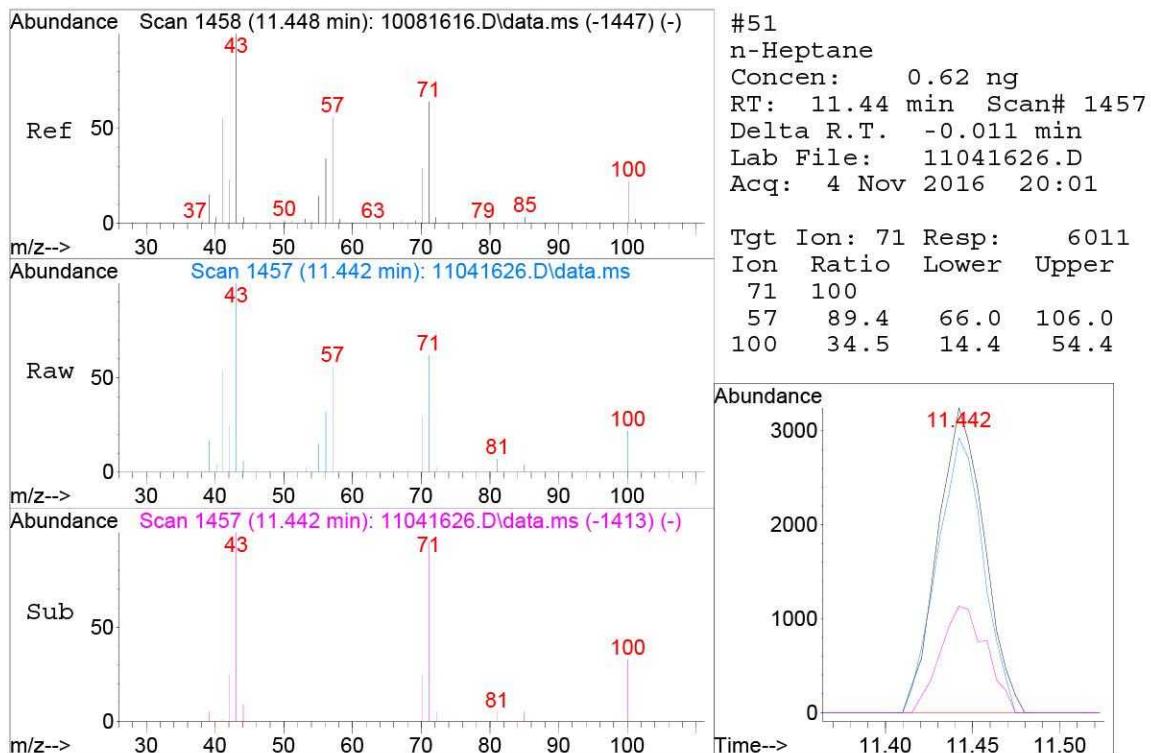
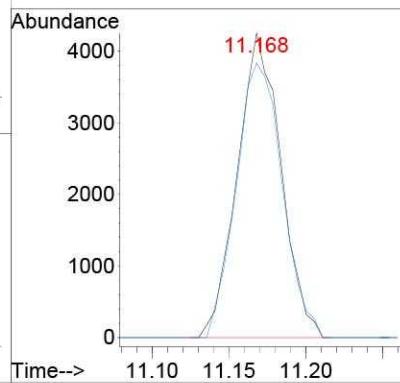
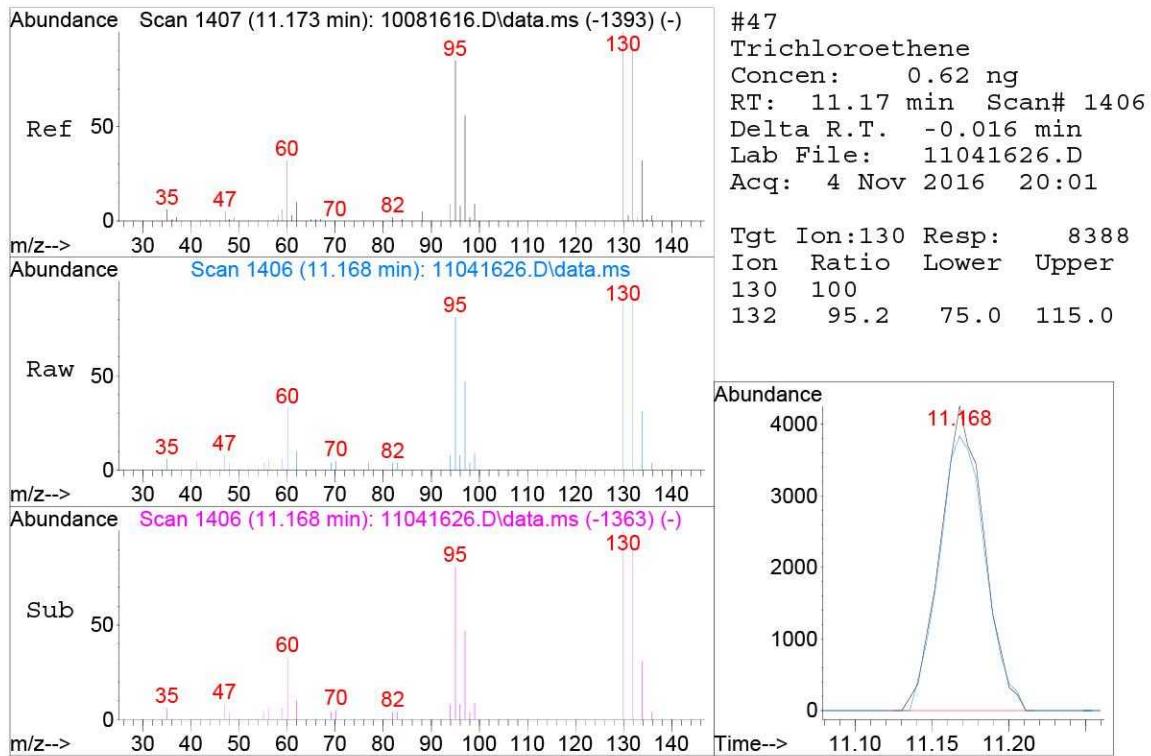


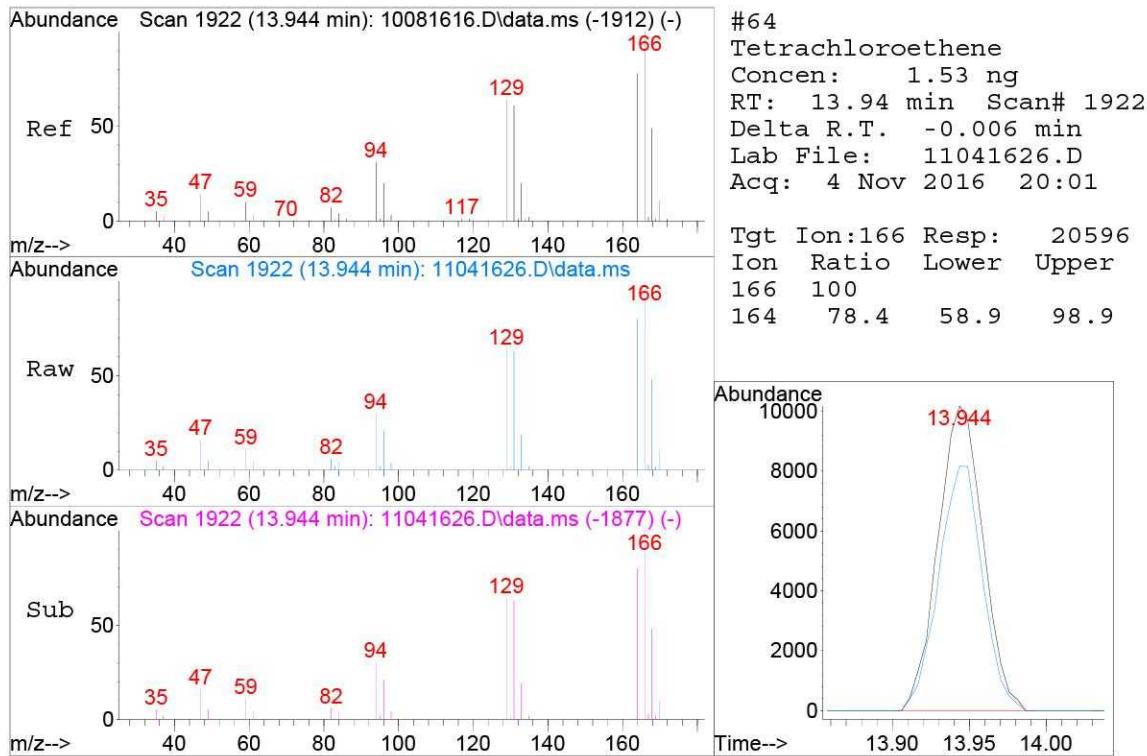
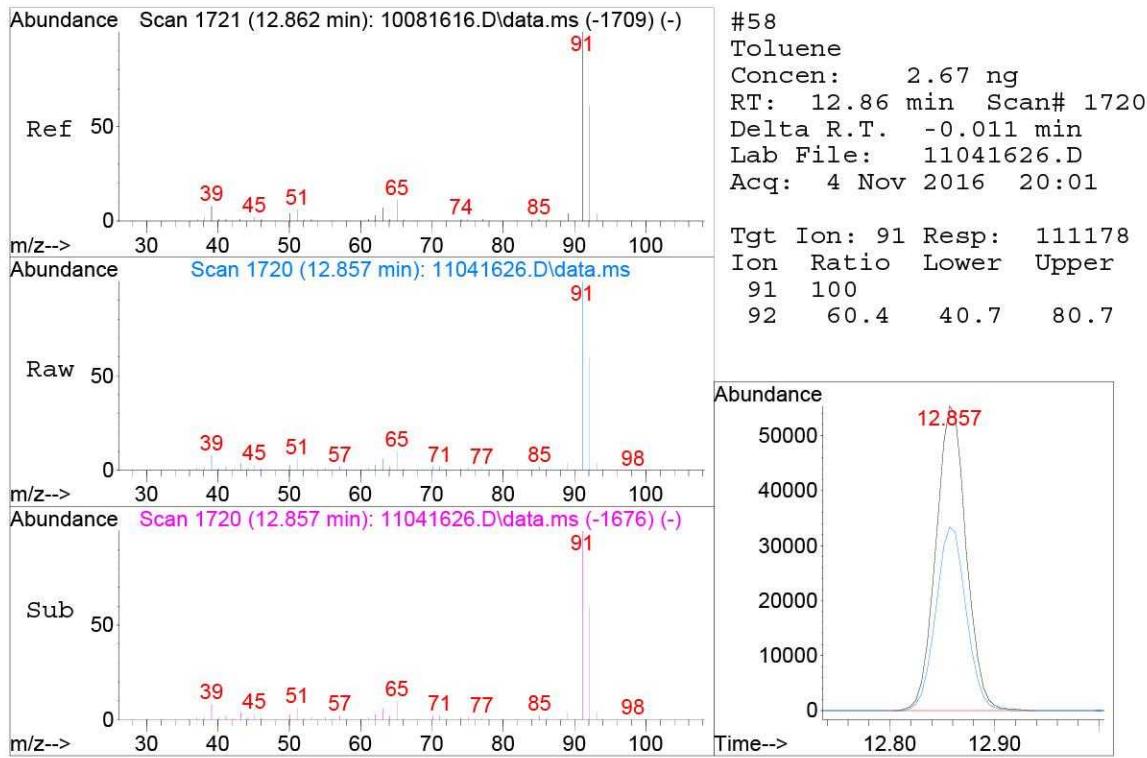


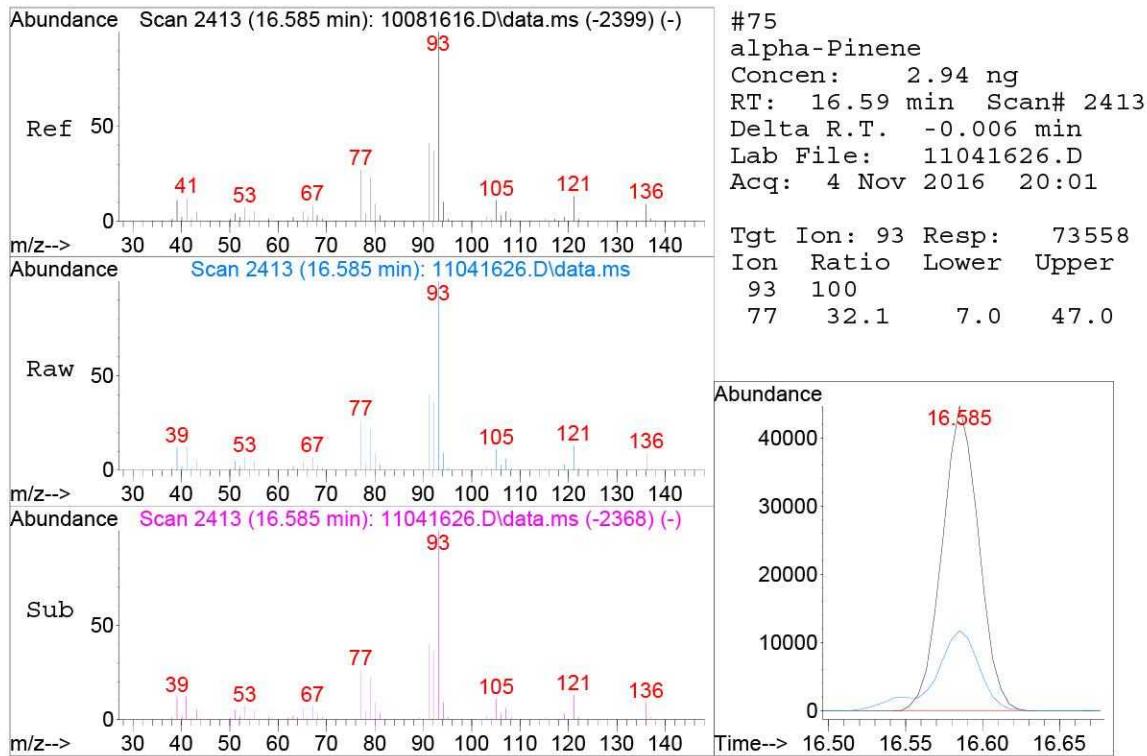
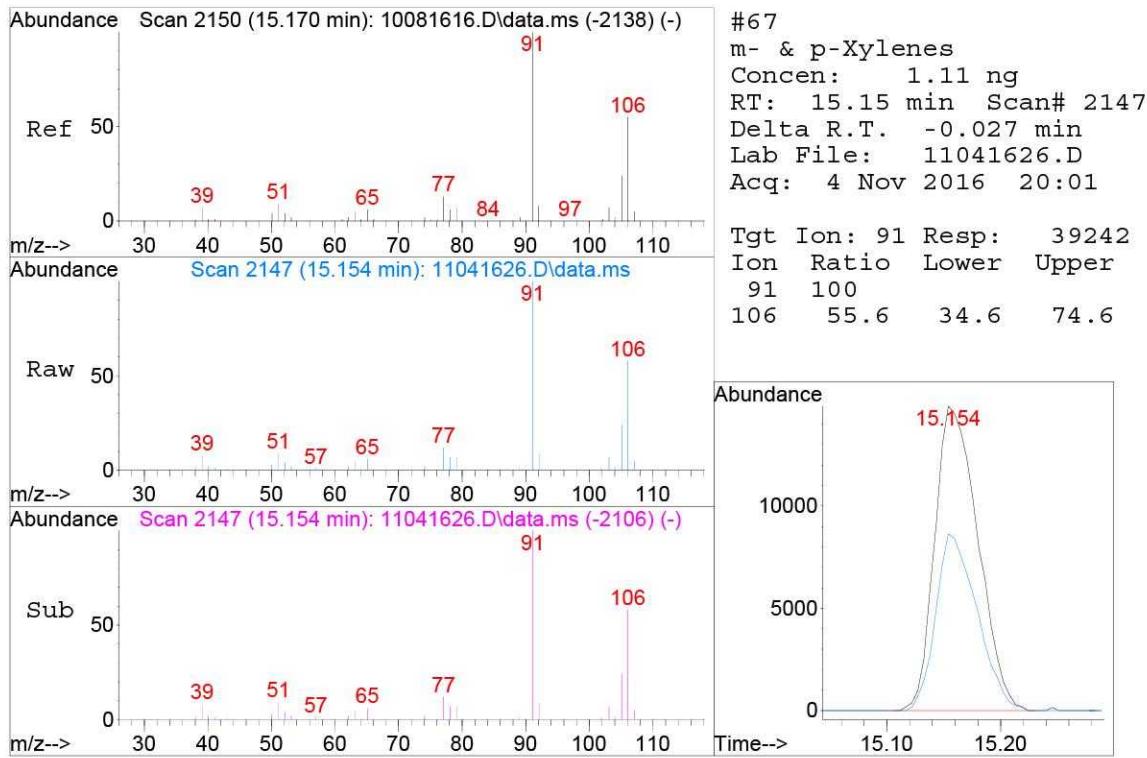


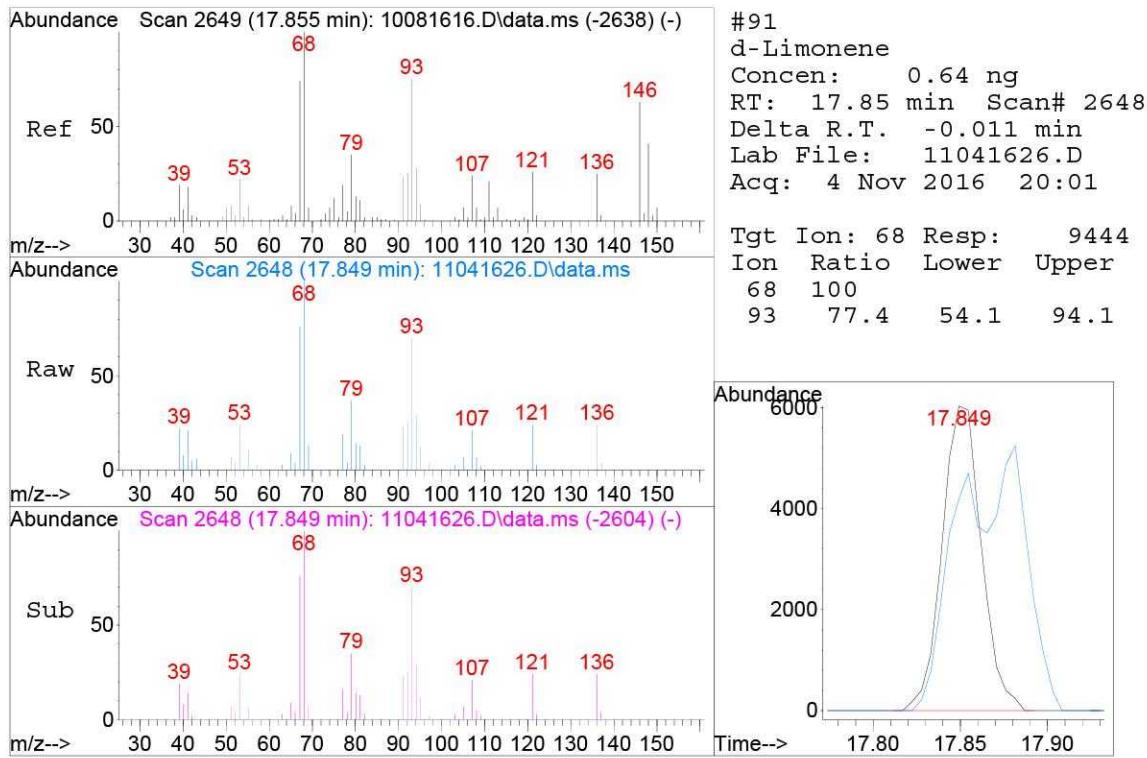












Data File: I:\MS08\Data\2016_11\04\11041627.D
 Acq On : 4 Nov 2016 20:33
 Sample : P1605059-008 (1000mL)
 Misc : S29-10041602
 ALS Vial : 14 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 07 16:20:58 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane (IS1)	8.78	130	111377	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	10.53	114	519056	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.56	82	212868	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.47	65	140099	12.559	ng	-0.03
Spiked Amount	12.500	Range	70 - 130	Recovery	=	100.48%
57) Toluene-d8 (SS2)	12.77	98	539208	12.732	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	101.84%
73) Bromofluorobenzene (SS3)	16.07	174	218850	12.506	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	100.08%

Target Compounds

					Qvalue	
2) Propene	3.88	42	10284	0.971	ng	# 76
3) Dichlorodifluoromethan...	3.98	85	24351	1.452	ng	99
4) Chloromethane	4.19	50	2000	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	4.35	135	701	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	4.65	54	506	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	5.02	64	772	N.D.		
10) Ethanol	5.35	45	73025	10.375	ng	98
11) Acetonitrile	5.58	41	2904	N.D.		
12) Acrolein	5.71	56	1902	N.D.		
13) Acetone	5.83	58	77782	9.936	ng	# 30
14) Trichlorofluoromethane	6.00	101	10855	0.715	ng	100
15) 2-Propanol (Isopropanol)	6.13	45	26906	1.237	ng	97
16) Acrylonitrile	6.39	53	1530	N.D.		
17) 1,1-Dichloroethene	6.65	96	4632	0.515	ng	100
18) 2-Methyl-2-Propanol (t...	6.76	59	1488	N.D.		
19) Methylene Chloride	6.78	84	3090	N.D.		
20) 3-Chloro-1-propene (Al...	6.84	41	4541	N.D.		
21) Trichlorotrifluoroethane	7.06	151	2681	N.D.		
22) Carbon Disulfide	7.05	76	5317	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	7.87	63	450	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	8.01	86	1050	N.D.		
27) 2-Butanone (MEK)	8.25	72	5091	0.838	ng	# 79
28) cis-1,2-Dichloroethene	8.64	61	2179	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	8.84	61	5553	1.763	ng	98
31) n-Hexane	8.85	57	23807	1.542	ng	99
32) Chloroform	8.91	83	2307	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	9.81	97	1615	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D. d		
41) Benzene	10.22	78	23307	0.563	ng	100
42) Carbon Tetrachloride	10.36	117	3427	N.D.		
43) Cyclohexane	10.48	84	5222	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	11.15	83	758	N.D.		
47) Trichloroethene	11.17	130	6659	0.500	ng	94
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	150 of 288	N.D. d		

Data File: I:\MS08\Data\2016_11\04\11041627.D
 Acq On : 4 Nov 2016 20:33
 Sample : P1605059-008 (1000mL)
 Misc : S29-10041602
 ALS Vial : 14 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 07 16:20:58 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
50) Methyl Methacrylate	11.44	100	1819	N.D.		
51) n-Heptane	11.44	71	5520	0.571	ng	99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.86	91	93755	2.255	ng	100
59) 2-Hexanone	13.08	43	2796	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.67	43	3483	N.D.		
63) n-Octane	13.79	57	1516	N.D.		
64) Tetrachloroethene	13.94	166	20313	1.509	ng	100
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	14.99	91	14933	N.D.		
67) m- & p-Xylenes	15.16	91	42901	1.217	ng	98
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	15.53	104	2442	N.D.		
70) o-Xylene	15.63	91	21348	0.589	ng	100
71) n-Nonane	15.84	43	4925	N.D.		
72) 1,1,2,2-Tetrachloroethane	15.72	83	431	N.D.		
74) Cumene	16.21	105	1380	N.D.		
75) alpha-Pinene	16.58	93	47123	1.884	ng	95
76) n-Propylbenzene	16.70	91	4237	N.D.		
77) 3-Ethyltoluene	16.79	105	11653	N.D.		
78) 4-Ethyltoluene	16.83	105	5088	N.D.		
79) 1,3,5-Trimethylbenzene	16.91	105	7168	N.D.		
80) alpha-Methylstyrene	17.26	118	686	N.D.		
81) 2-Ethyltoluene	17.09	105	6824	N.D.		
82) 1,2,4-Trimethylbenzene	17.30	105	14021	N.D.		
83) n-Decane	0.00	57	0	N.D.	d	
84) Benzyl Chloride	17.30	91	1565	N.D.		
85) 1,3-Dichlorobenzene	17.52	146	1361	N.D.		
86) 1,4-Dichlorobenzene	17.52	146	1361	N.D.		
87) sec-Butylbenzene	17.56	105	827	N.D.		
88) 4-Isopropyltoluene (p-...)	17.71	119	4676	N.D.		
89) 1,2,3-Trimethylbenzene	17.71	105	7156	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	17.85	68	4100	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	19.57	128	6120	N.D.		
96) n-Dodecane	19.58	57	3694	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	15.32	55	2099	N.D.		
99) tert-Butylbenzene	17.31	119	2270	N.D.		
100) n-Butylbenzene	18.11	91	2325	N.D.		

(#= qualifier out of range (m)= manual integration (+)= signals summed

Data File: I:\MS08\Data\2016_11\04\11041627.D
Acq On : 4 Nov 2016 20:33
Sample : P1605059-008 (1000mL)
Misc : S29-10041602
ALS Vial : 14 Sample Multiplier: 1

Operator: WA

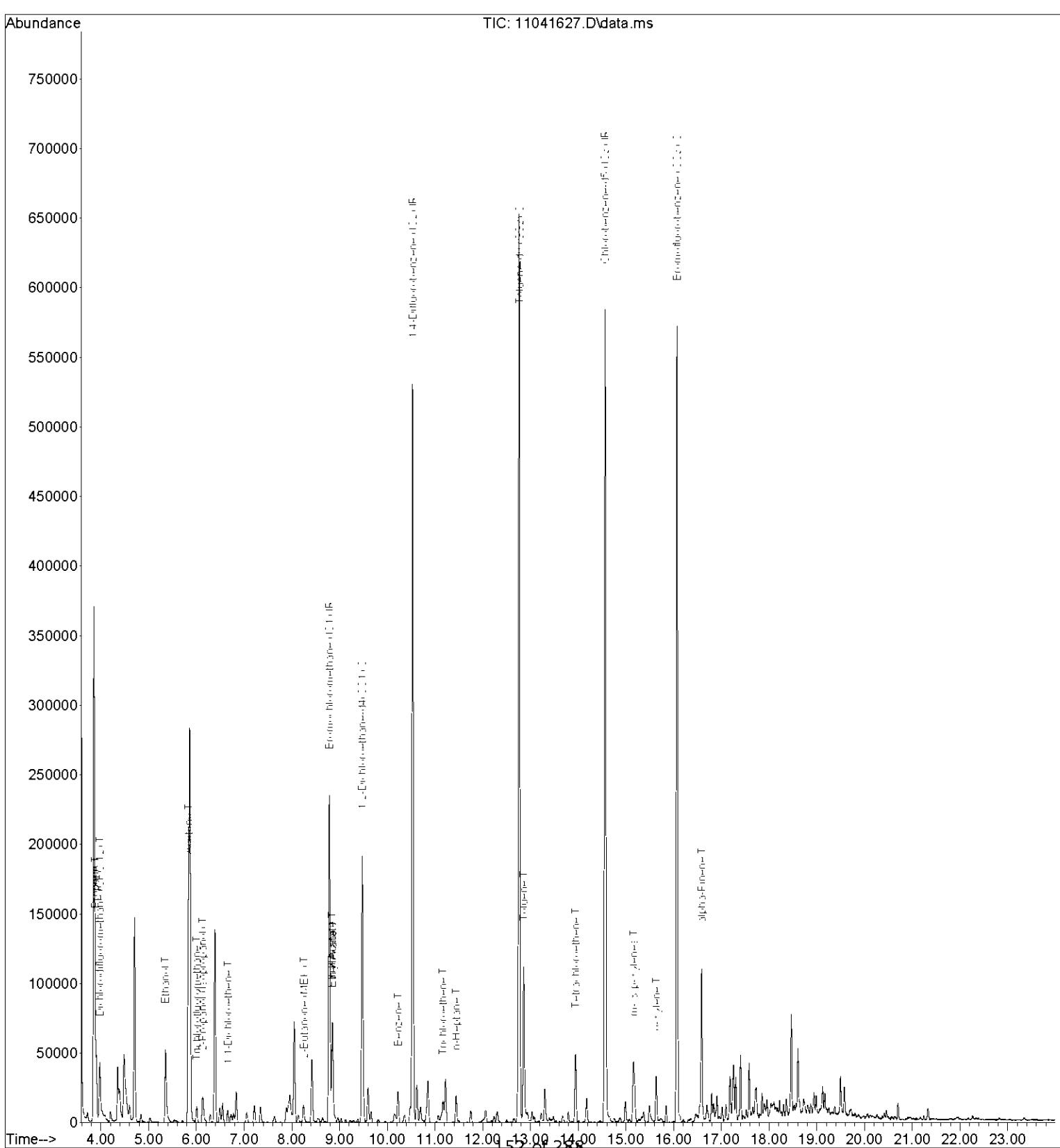
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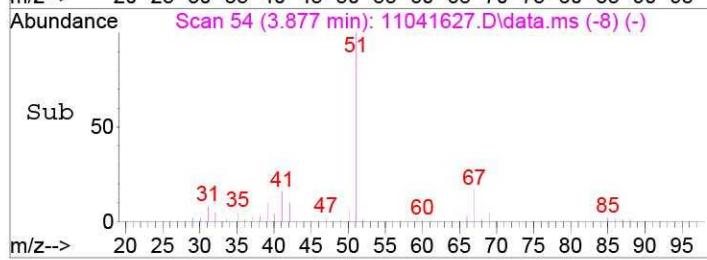
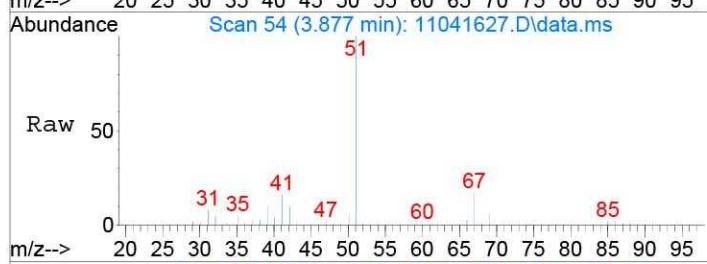
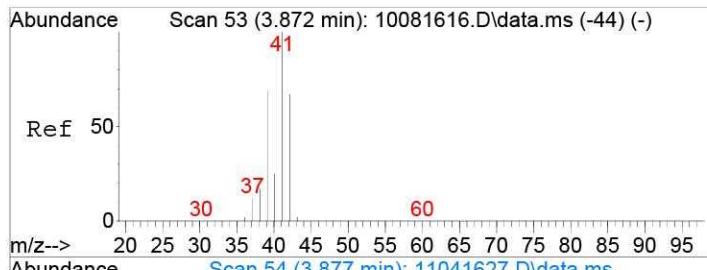
Quant Method : I:\MS08\Methods\R8100816.M

Quant Title : EPA TO-15 per SOP VOA-TO

QLast Update : Wed Oct 12 15:54:53

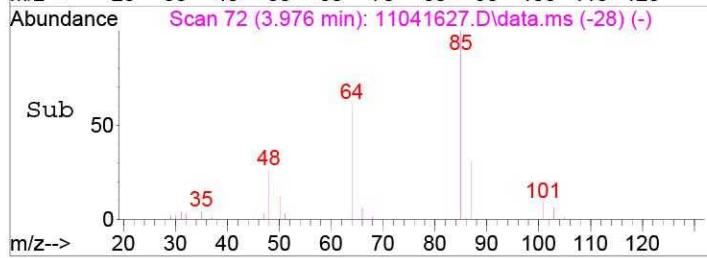
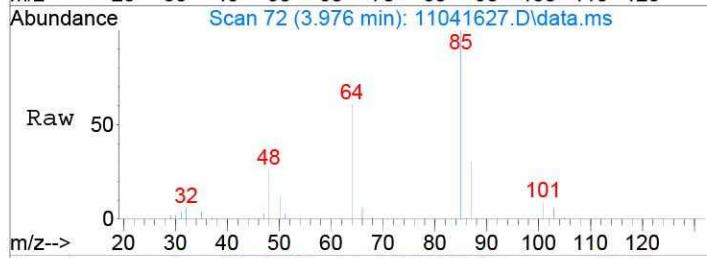
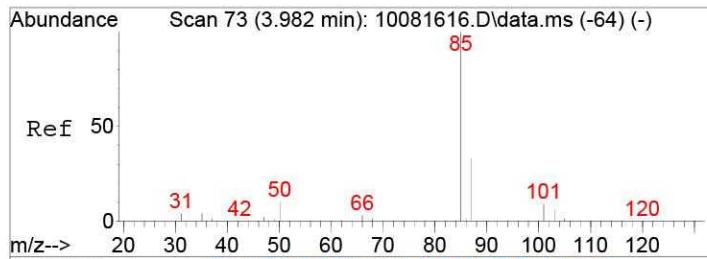
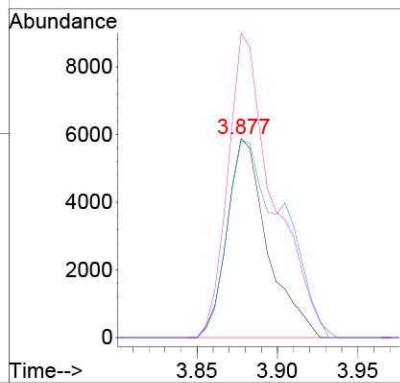
Response via : Init





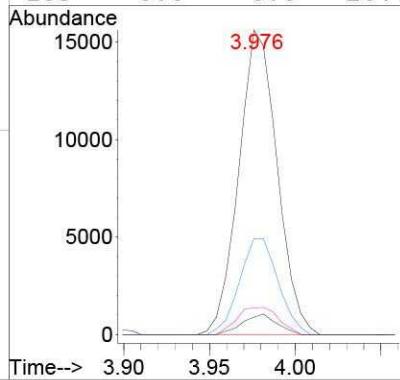
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RT: 3.88 min Scan# 54
Delta R.T. -0.001 min
Lab File: 11041627.D
Acq: 4 Nov 2016 20:33

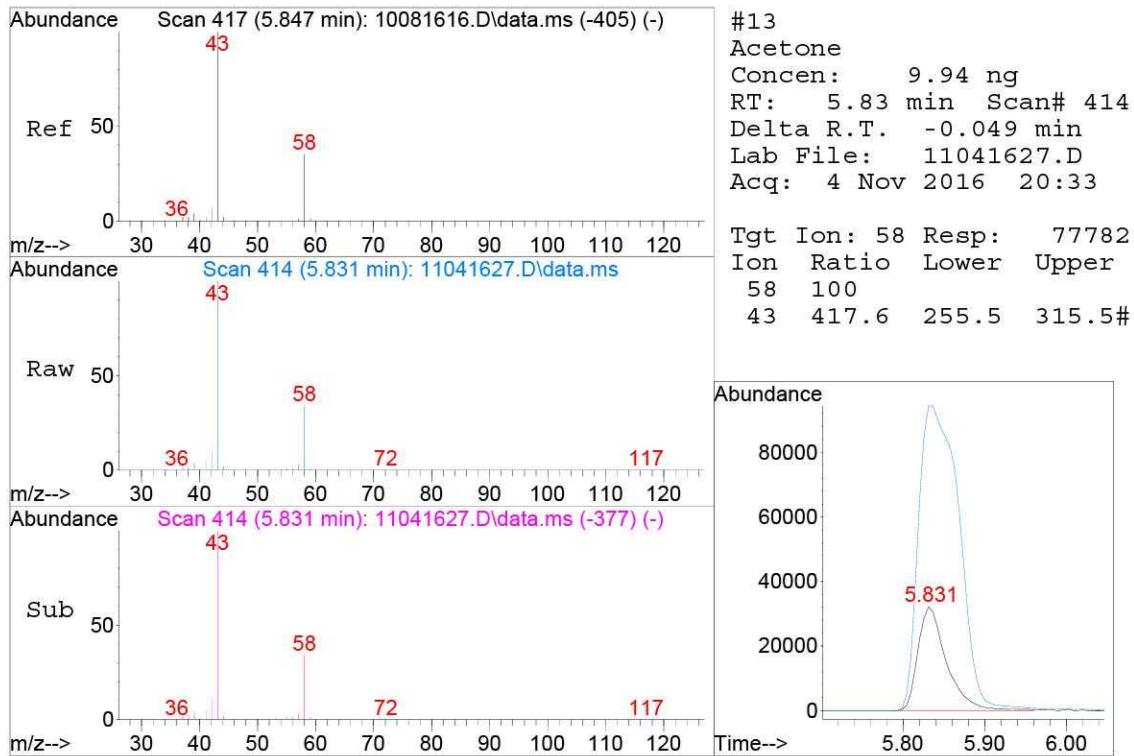
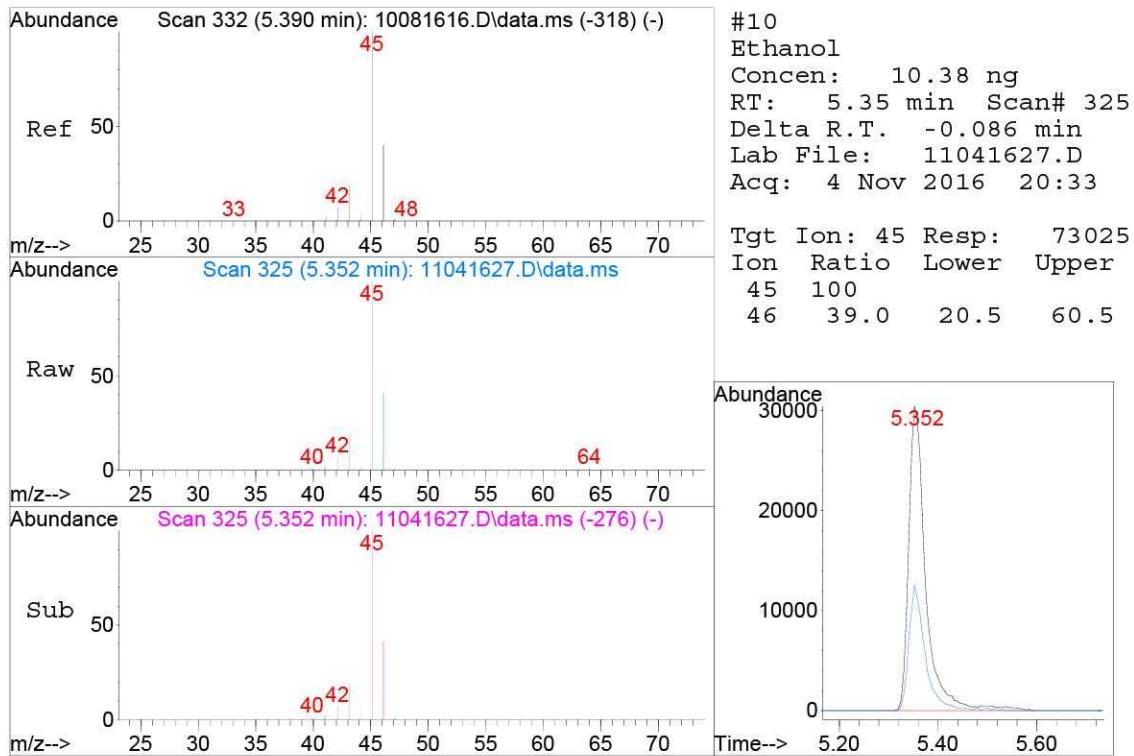
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Ion Ratio Lower Upper
42 100
39 135.9 83.4 123.4#
41 171.5 128.8 168.8#

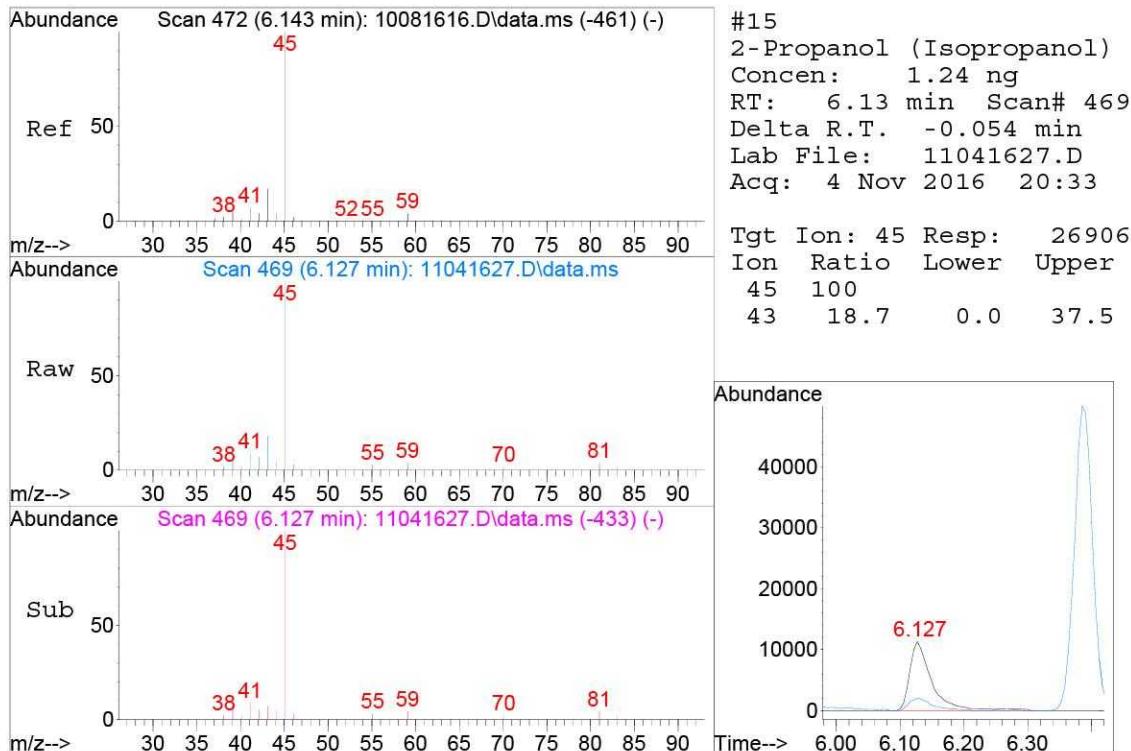
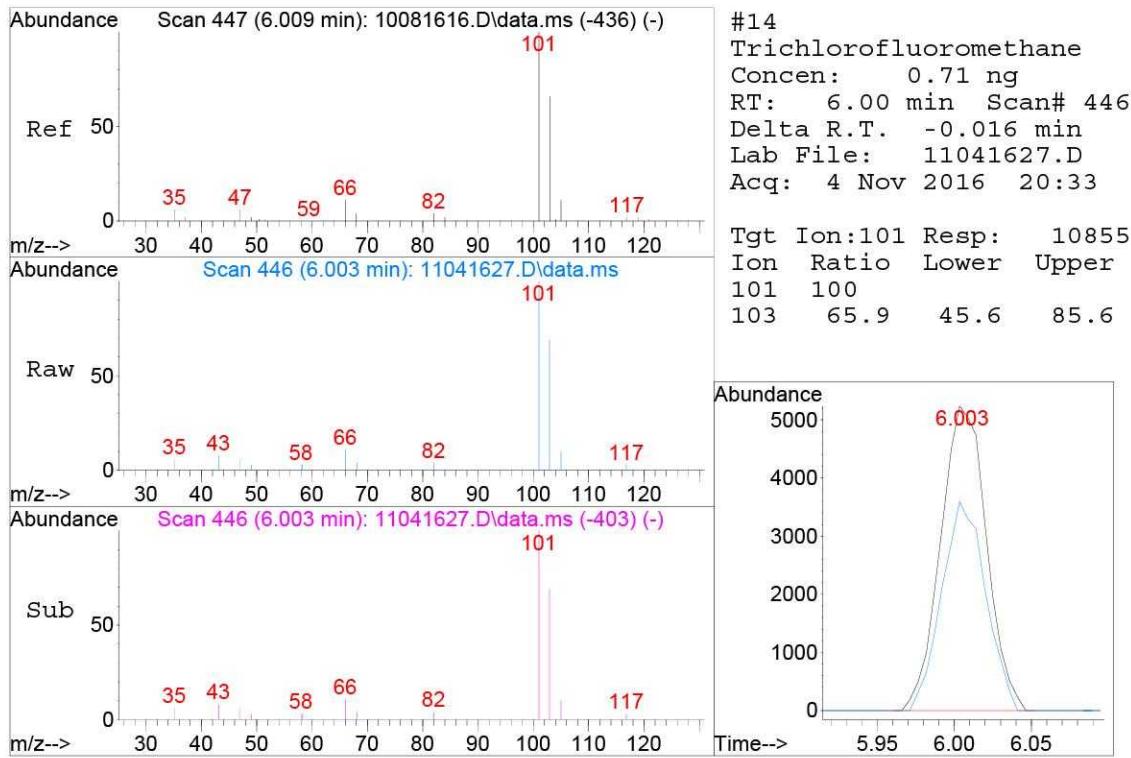


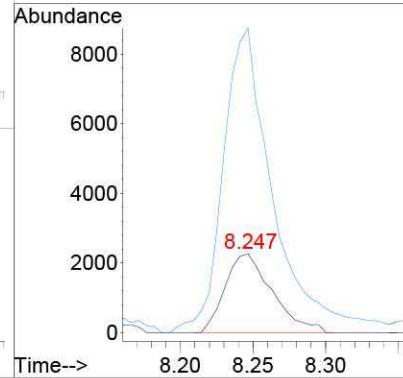
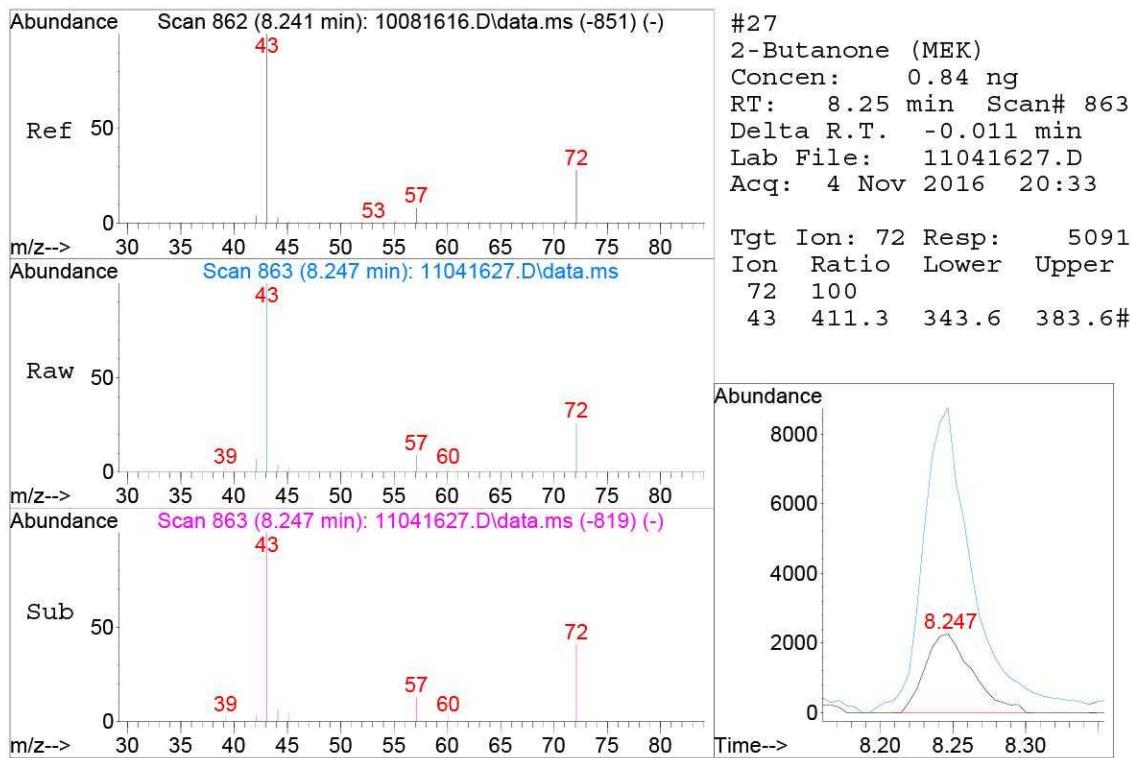
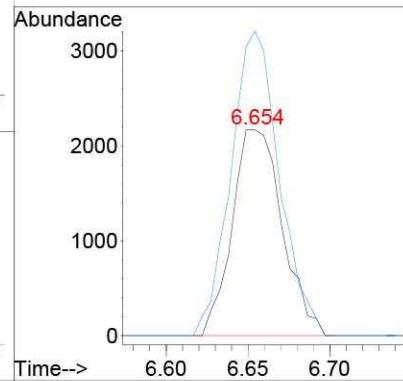
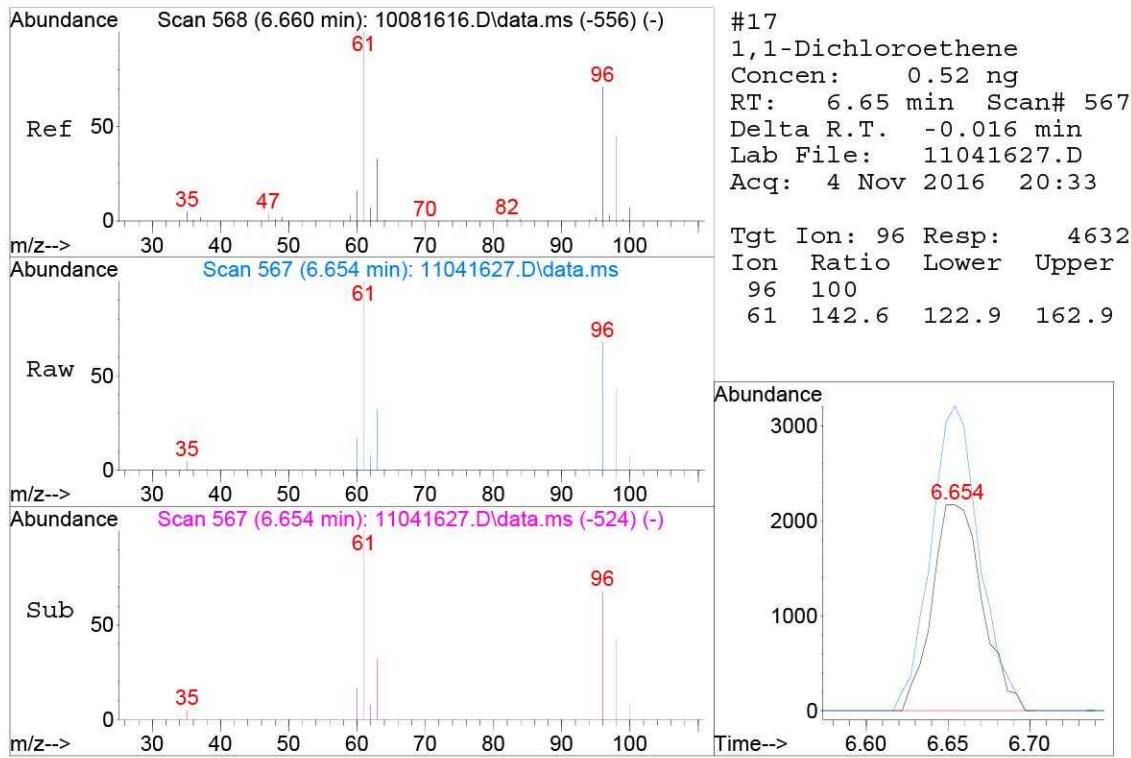
#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.45 ng
RT: 3.98 min Scan# 72
Delta R.T. -0.011 min
Lab File: 11041627.D
Acq: 4 Nov 2016 20:33

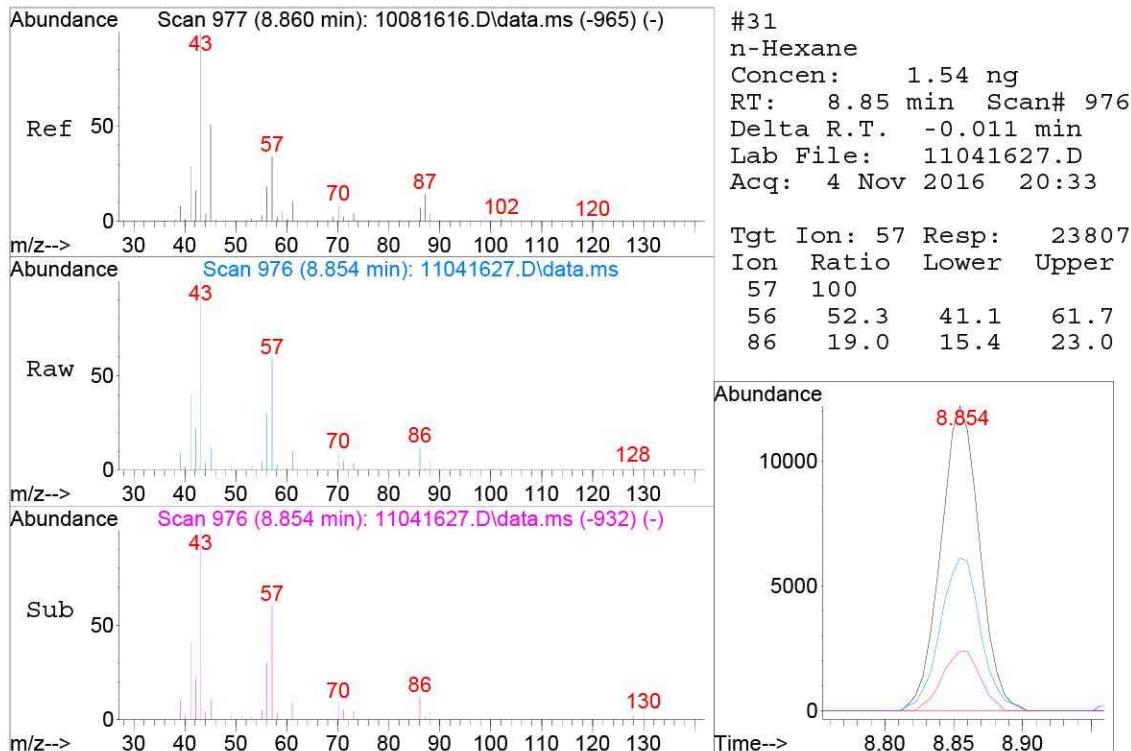
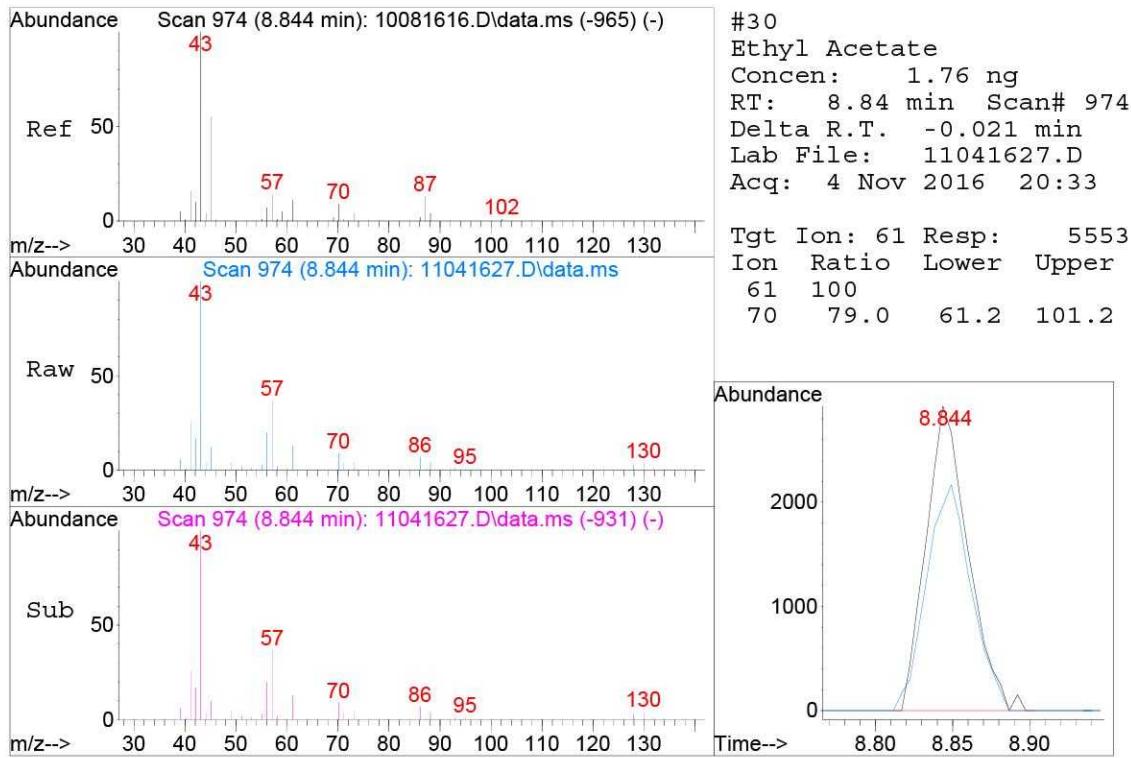
Tgt Ion: 85 Resp: 24351
Ion Ratio Lower Upper
85 100
87 31.8 12.8 52.8
101 9.7 0.0 29.7
103 6.0 0.0 26.4

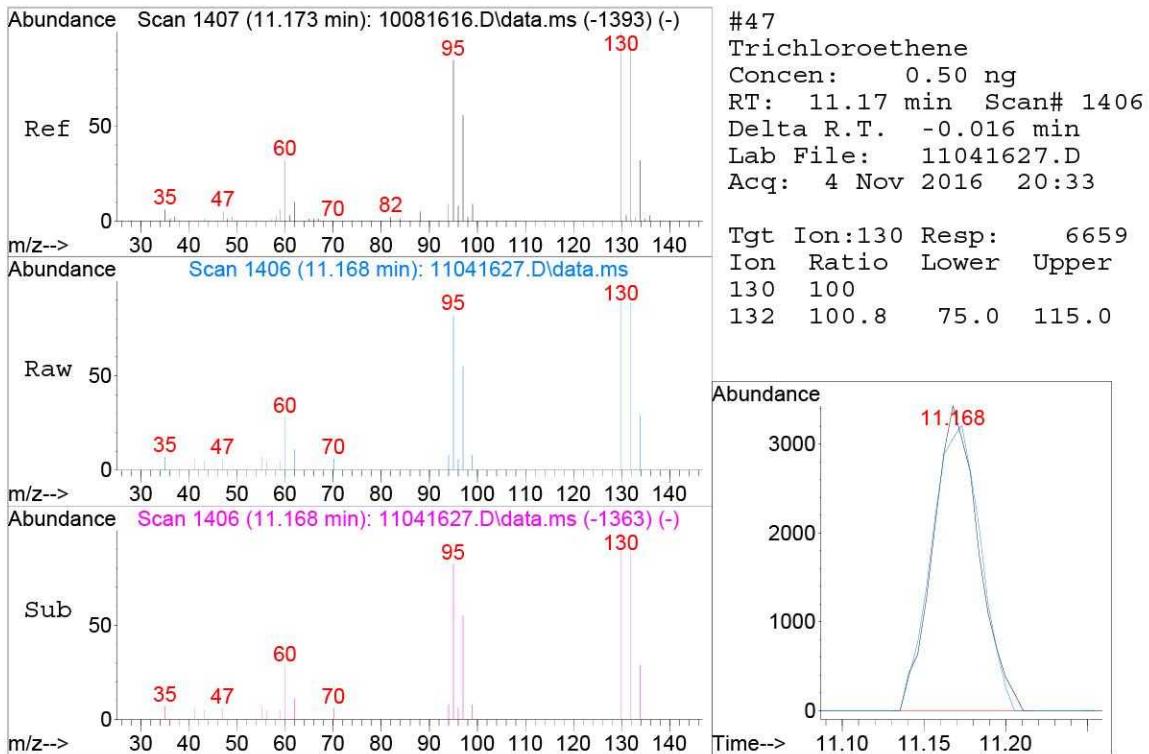
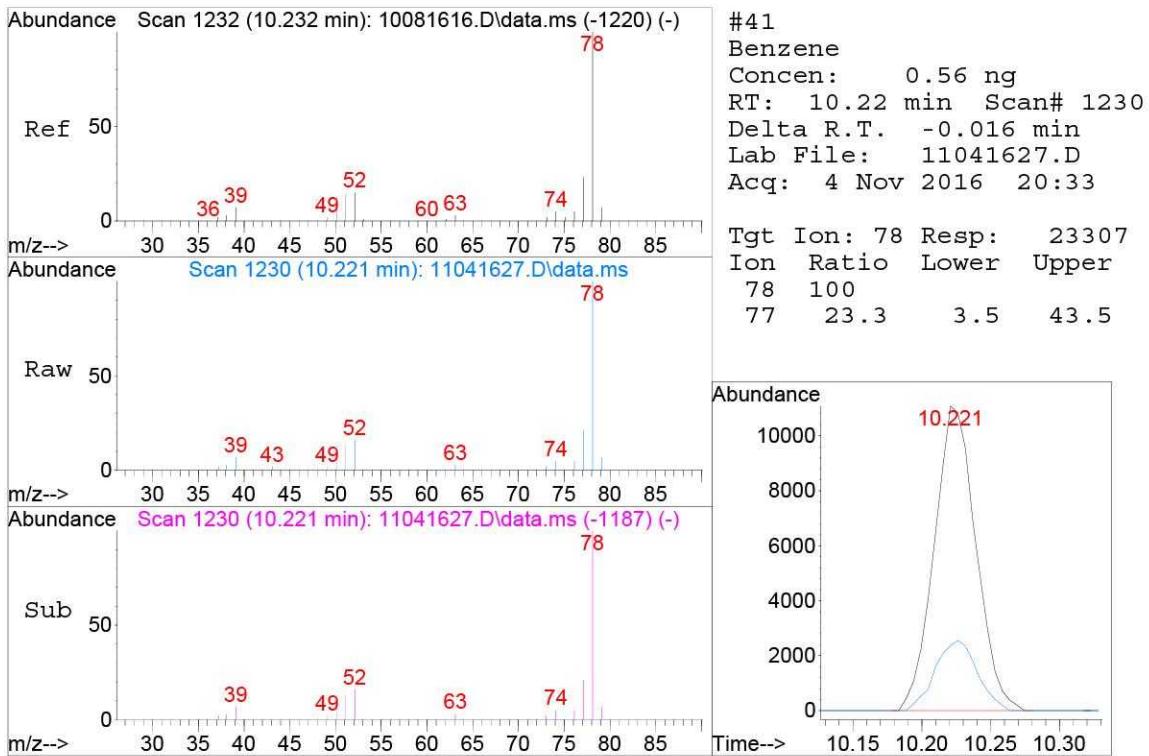


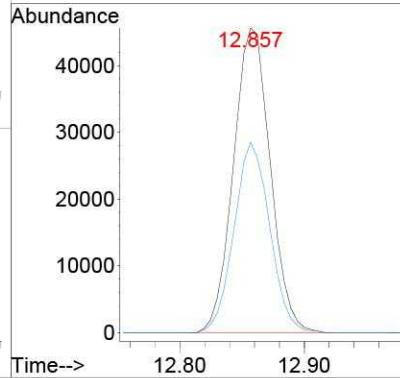
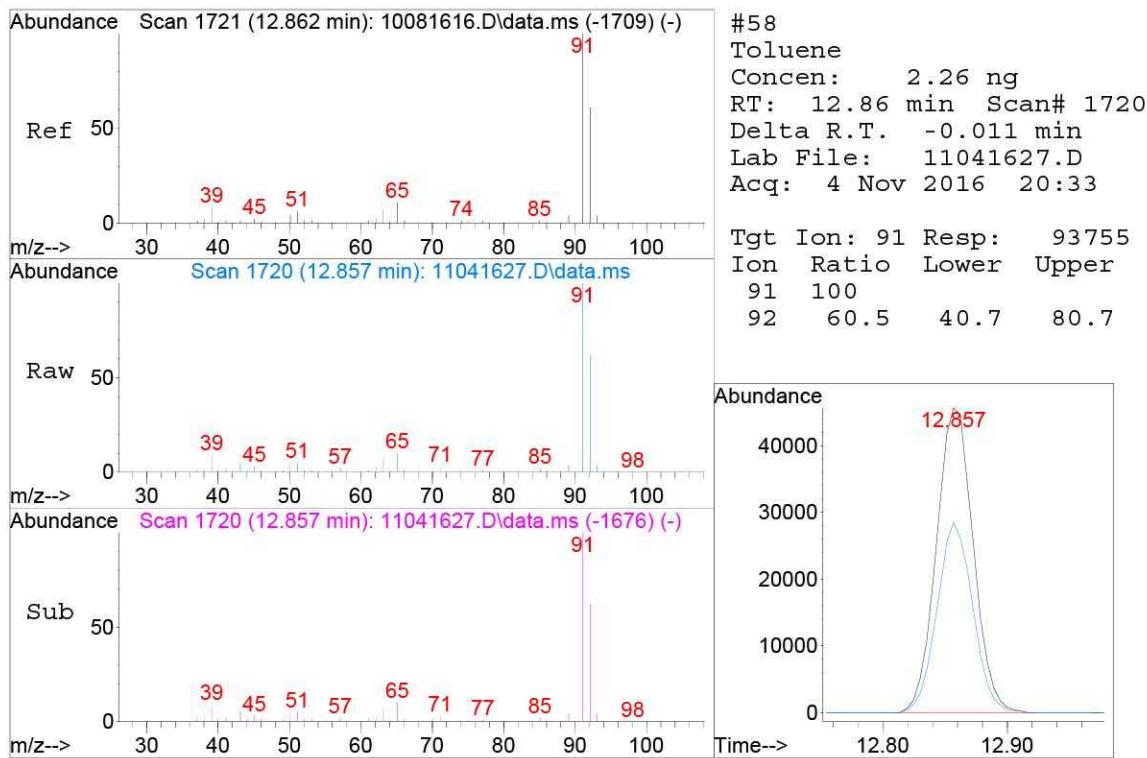
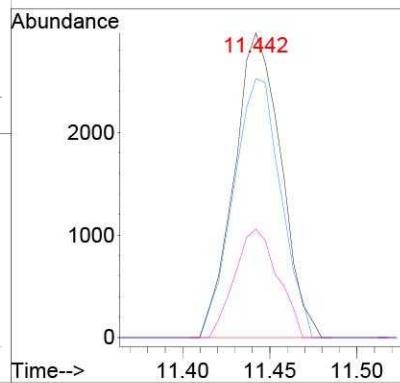
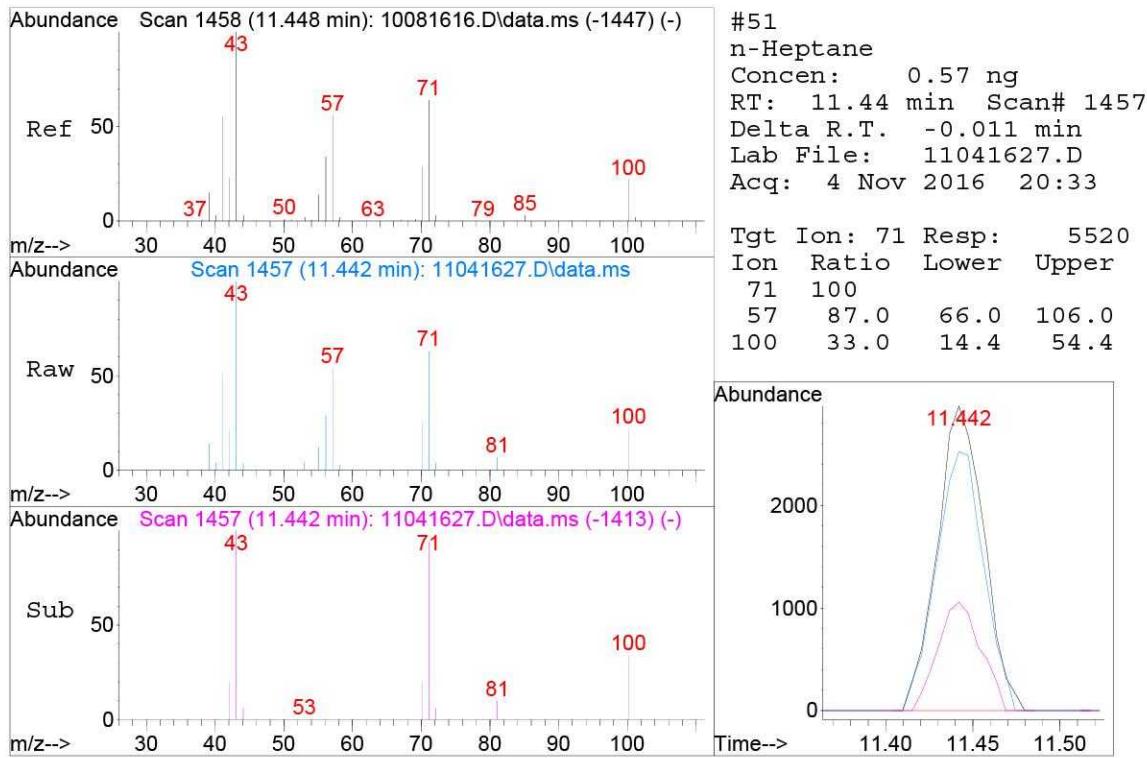


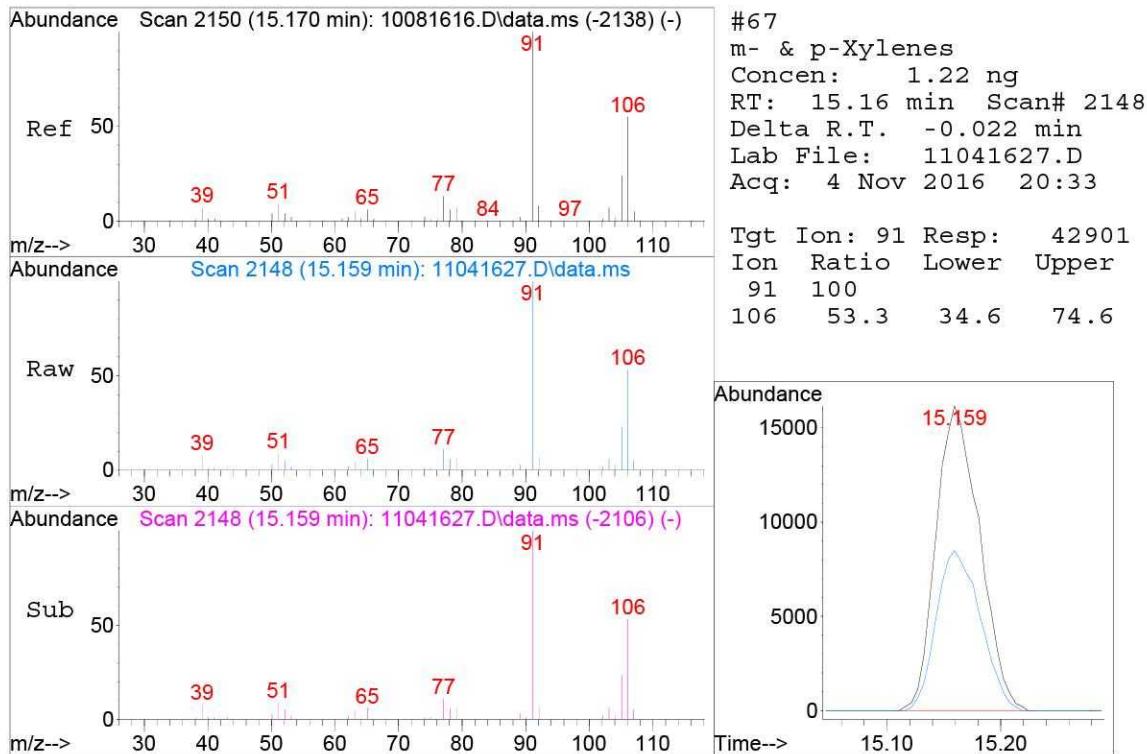
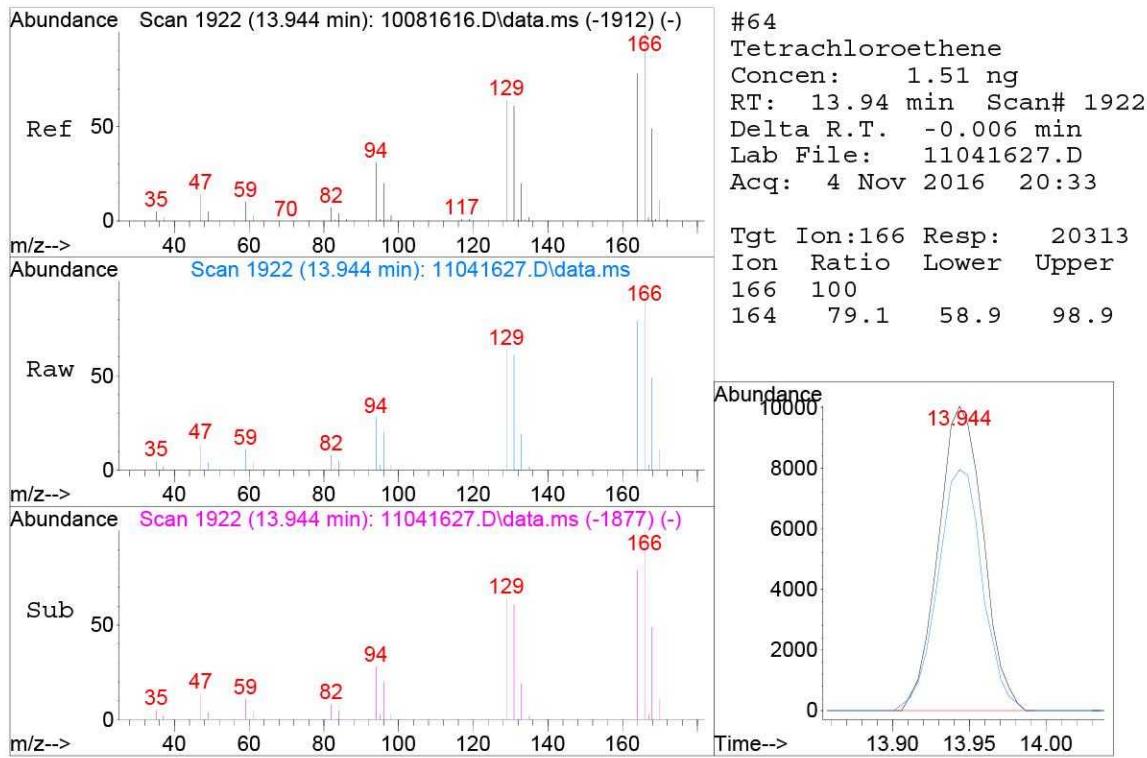


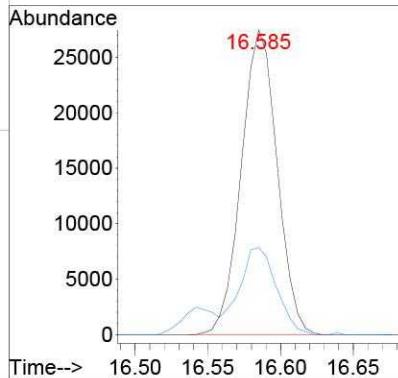
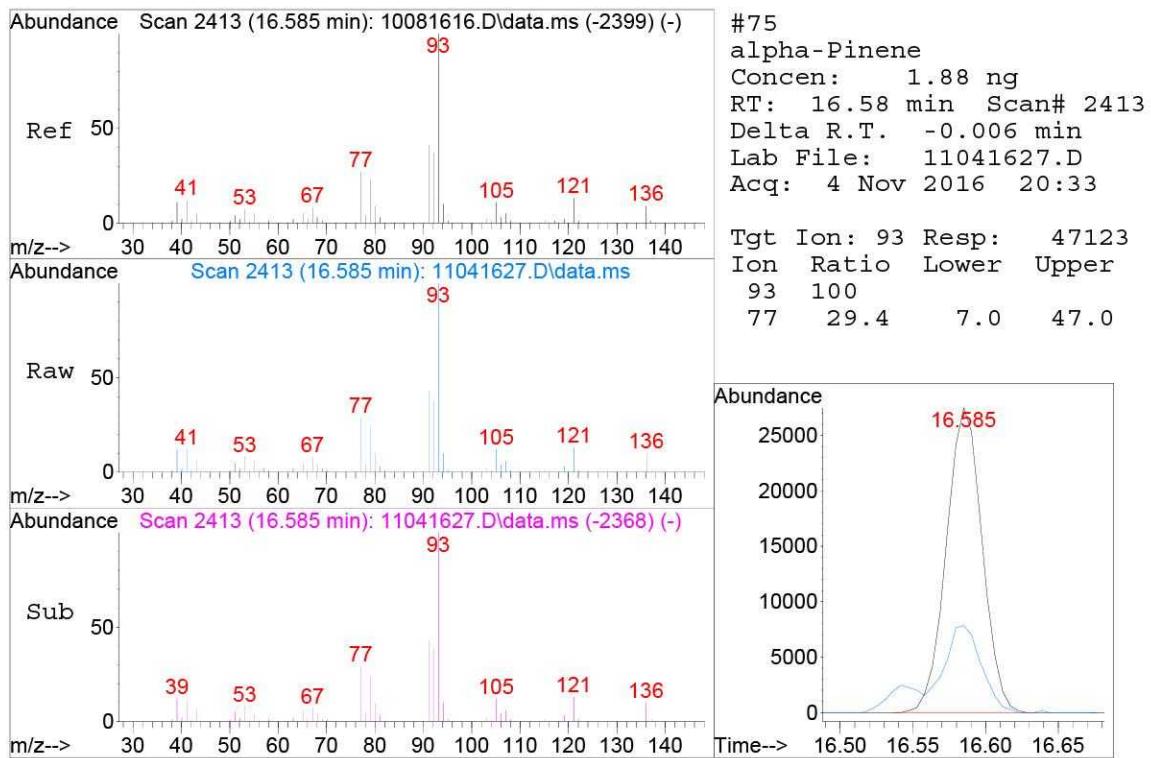
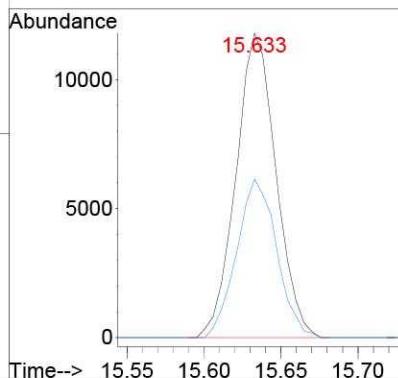
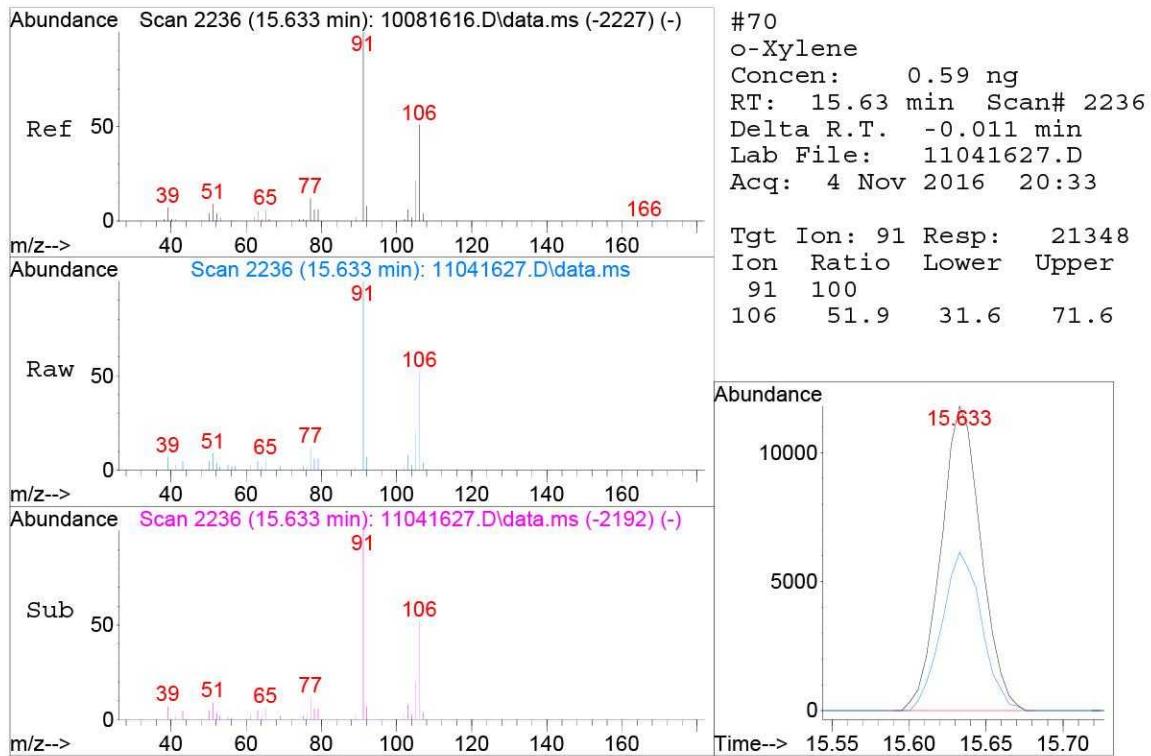












Data File: I:\MS08\Data\2016_11\04\11041613.D
 Acq On : 4 Nov 2016 12:02
 Sample : P1605059-009 (40mL)
 Misc : S29-10041602
 ALS Vial : 9 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 07 15:05:32 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane (IS1)	8.78	130	117482	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	10.53	114	547800	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.56	82	225338	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.47	65	147723	12.554	ng	-0.03
Spiked Amount	12.500	Range	70 - 130	Recovery	=	100.40%
57) Toluene-d8 (SS2)	12.77	98	558100	12.448	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	99.60%
73) Bromofluorobenzene (SS3)	16.07	174	220994	11.930	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	95.44%

Target Compounds

					Qvalue
2) Propene	0.00	42	0	N.D.	d
3) Dichlorodifluoromethan...	3.99	85	1070	N.D.	
4) Chloromethane	4.34	50	1417	N.D.	
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.	
6) Vinyl Chloride	0.00	62	0	N.D.	
7) 1,3-Butadiene	0.00	54	0	N.D.	
8) Bromomethane	0.00	94	0	N.D.	
9) Chloroethane	0.00	64	0	N.D.	
10) Ethanol	5.37	45	5594	0.753	ng 85
11) Acetonitrile	0.00	41	0	N.D.	
12) Acrolein	5.73	56	51	N.D.	
13) Acetone	5.85	58	17240	2.088	ng # 68
14) Trichlorofluoromethane	0.00	101	0	N.D.	
15) 2-Propanol (Isopropanol)	6.15	45	5736	N.D.	
16) Acrylonitrile	6.39	53	55	N.D.	
17) 1,1-Dichloroethene	6.65	96	785759	82.842	ng 98
18) 2-Methyl-2-Propanol (t...	6.77	59	501	N.D.	
19) Methylene Chloride	0.00	84	0	N.D.	d
20) 3-Chloro-1-propene (Al...	6.84	41	441	N.D.	
21) Trichlorotrifluoroethane	7.06	151	12768	1.285	ng 99
22) Carbon Disulfide	7.04	76	4672	N.D.	
23) trans-1,2-Dichloroethene	7.69	61	3219	N.D.	
24) 1,1-Dichloroethane	7.87	63	99942	6.111	ng 99
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	
26) Vinyl Acetate	8.06	86	553	N.D.	
27) 2-Butanone (MEK)	8.26	72	1644	N.D.	
28) cis-1,2-Dichloroethene	8.64	61	1868	N.D.	
29) Diisopropyl Ether	8.90	87	943	N.D.	
30) Ethyl Acetate	0.00	61	0	N.D.	d
31) n-Hexane	8.86	57	5056	N.D.	
32) Chloroform	8.90	83	10157	0.625	ng 96
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.	
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.	
36) 1,2-Dichloroethane	0.00	62	0	N.D.	
38) 1,1,1-Trichloroethane	9.81	97	102342	6.798	ng 99
39) Isopropyl Acetate	0.00	61	0	N.D.	
40) 1-Butanol	10.16	56	2827	N.D.	
41) Benzene	10.23	78	12319	N.D.	
42) Carbon Tetrachloride	0.00	117	0	N.D.	
43) Cyclohexane	10.48	84	2967	N.D.	
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.	
45) 1,2-Dichloropropane	0.00	63	0	N.D.	
46) Bromodichloromethane	11.16	83	736	N.D.	
47) Trichloroethene	11.17	130	60286	4.290	ng 96
48) 1,4-Dioxane	0.00	88	0	N.D.	
49) 2,2,4-Trimethylpentane...	11.22	57	162 5336 288	N.D.	

Data File: I:\MS08\Data\2016_11\04\11041613.D
 Acq On : 4 Nov 2016 12:02
 Sample : P1605059-009 (40mL)
 Misc : S29-10041602
 ALS Vial : 9 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 07 15:05:32 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

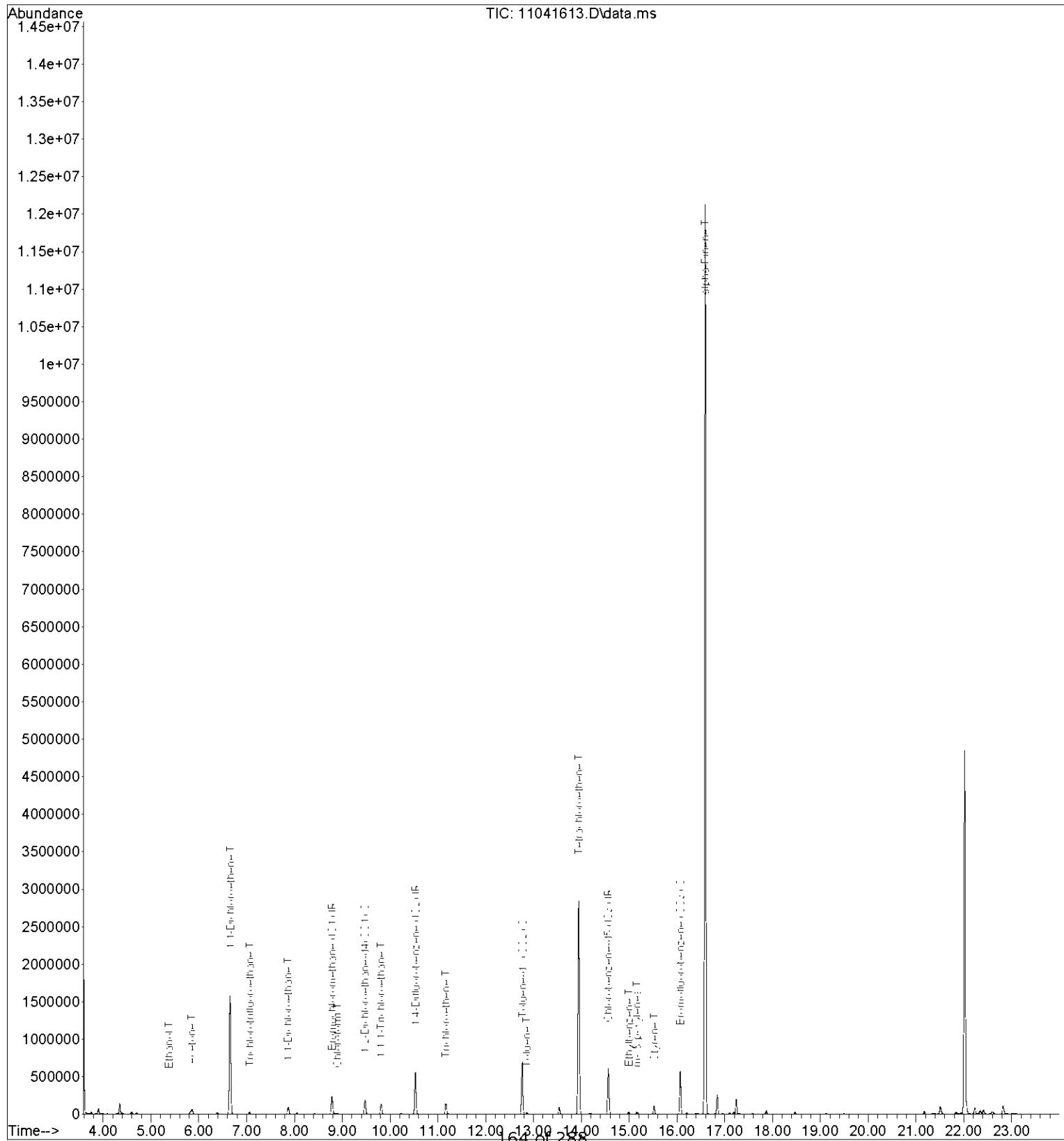
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
50) Methyl Methacrylate	0.00	100	0	N.D.		
51) n-Heptane	11.44	71	943	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.86	91	21396	0.486	ng	96
59) 2-Hexanone	13.09	43	992	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D. d		
63) n-Octane	13.80	57	480	N.D.		
64) Tetrachloroethene	13.94	166	1147598	80.549	ng	100
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	14.99	91	30686	0.632	ng	96
67) m- & p-Xylenes	15.16	91	27888	0.747	ng	97
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	15.52	104	67492	2.234	ng	99
70) o-Xylene	15.63	91	3650	N.D.		
71) n-Nonane	15.84	43	959	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	16.21	105	11767	N.D.		
75) alpha-Pinene	16.59	93	5606349	211.749	ng	99
76) n-Propylbenzene	16.70	91	7007	N.D.		
77) 3-Ethyltoluene	16.80	105	4274	N.D.		
78) 4-Ethyltoluene	16.84	105	8882	N.D.		
79) 1,3,5-Trimethylbenzene	16.91	105	1056	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.10	105	1061	N.D.		
82) 1,2,4-Trimethylbenzene	17.31	105	2944	N.D.		
83) n-Decane	17.40	57	1526	N.D.		
84) Benzyl Chloride	17.35	91	510	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	17.71	105	1109	N.D.		
88) 4-Isopropyltoluene (p-...)	17.71	119	3641	N.D.		
89) 1,2,3-Trimethylbenzene	17.71	105	1109	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	17.85	68	5211	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	18.61	57	908	N.D.		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	0.00	128	0	N.D.		
96) n-Dodecane	19.58	57	1017	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	15.50	55	624	N.D.		
99) tert-Butylbenzene	17.25	119	576	N.D.		
100) n-Butylbenzene	18.12	91	500	N.D.		

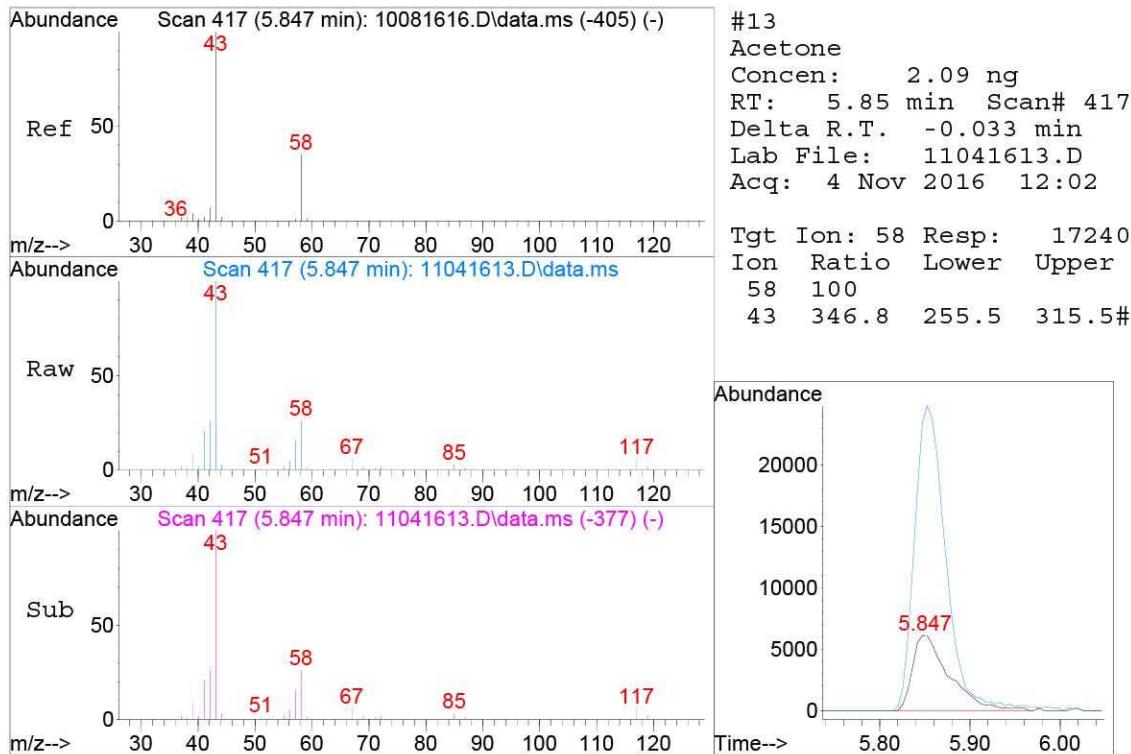
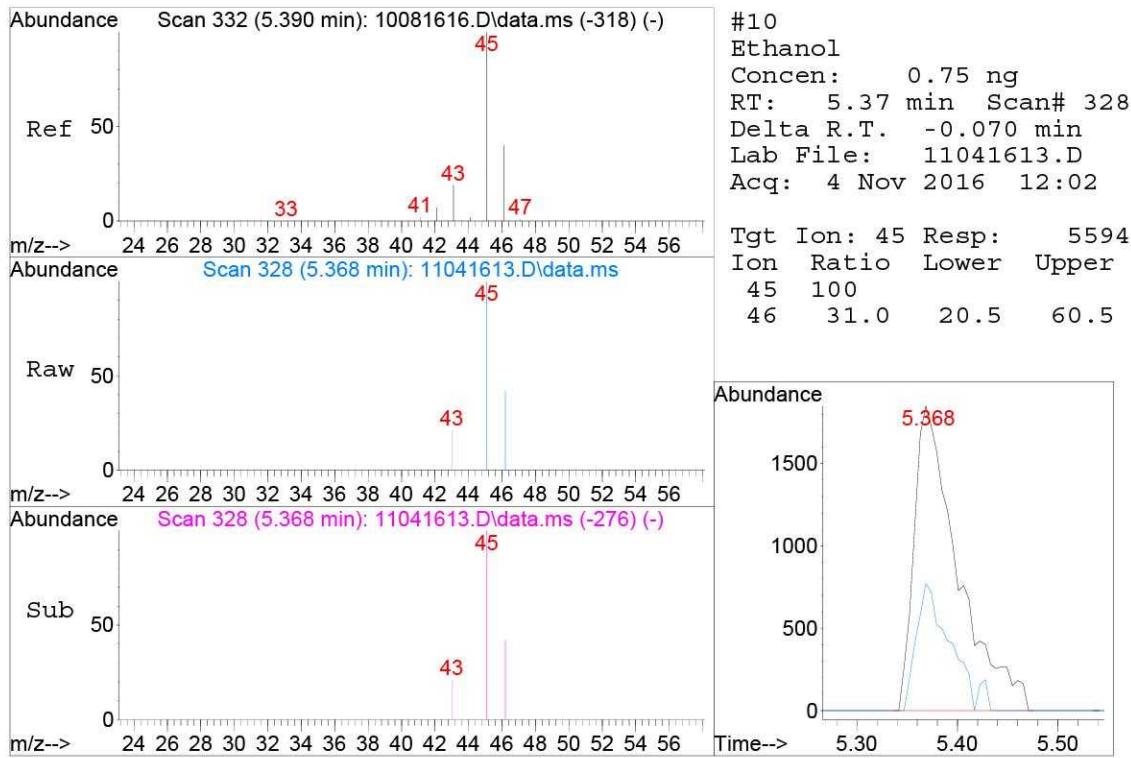
(#= qualifier out of range (m)= manual integration (+)= signals summed

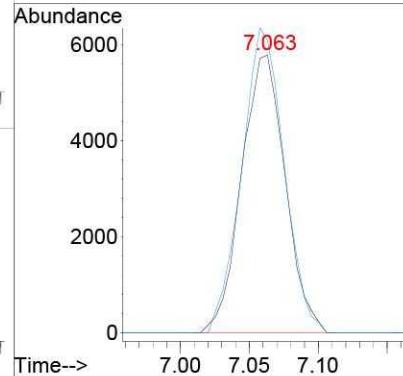
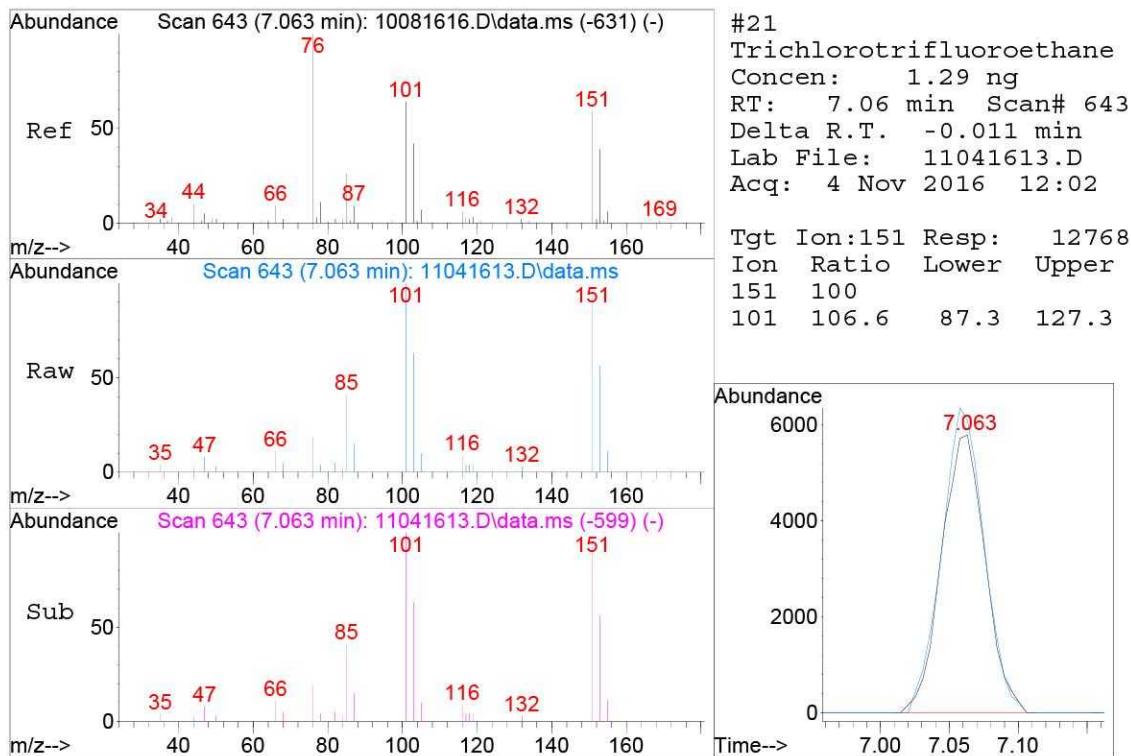
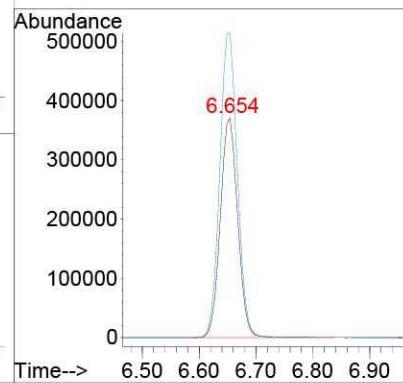
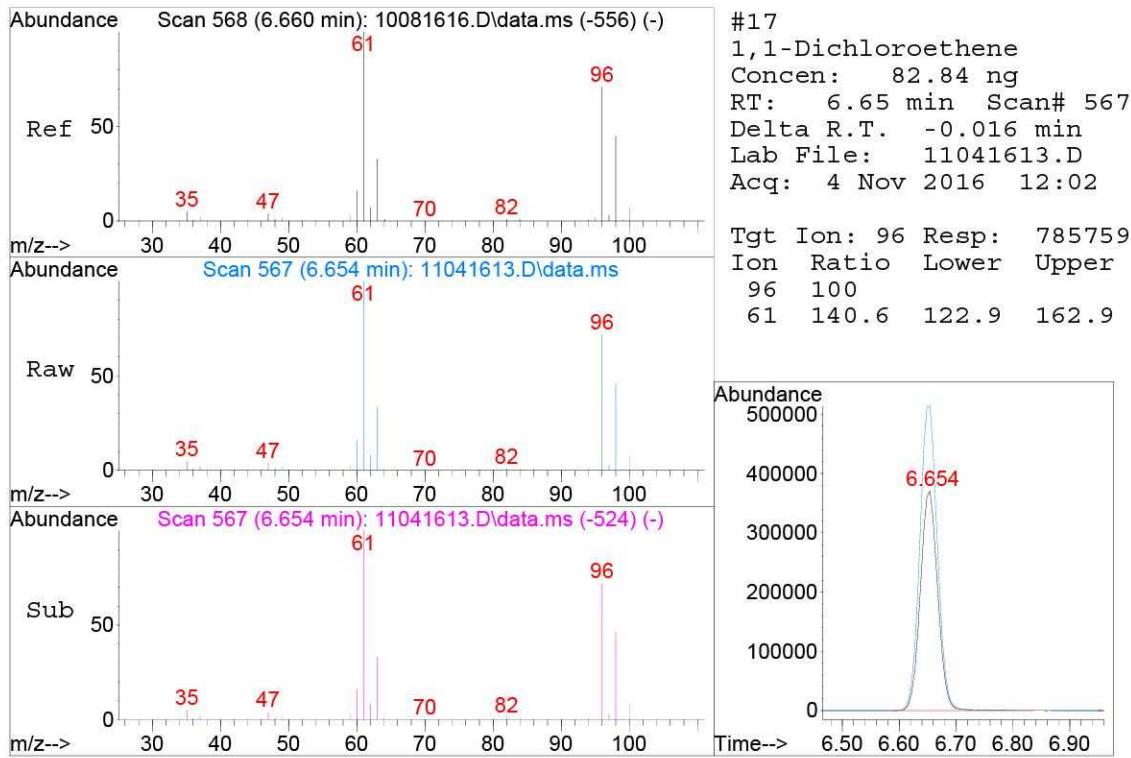
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 Acq On : 4 Nov 2016 12:02
 Sample : P1605059-009 (40mL)
 Misc : S29-10041602
 ALS Vial : 9 Sample Multiplier: 1

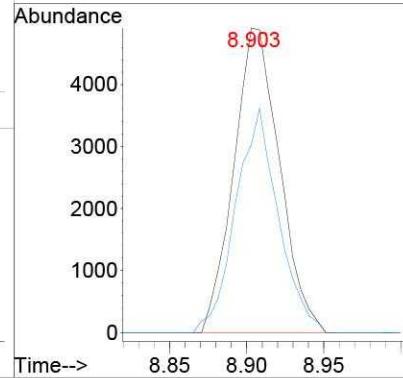
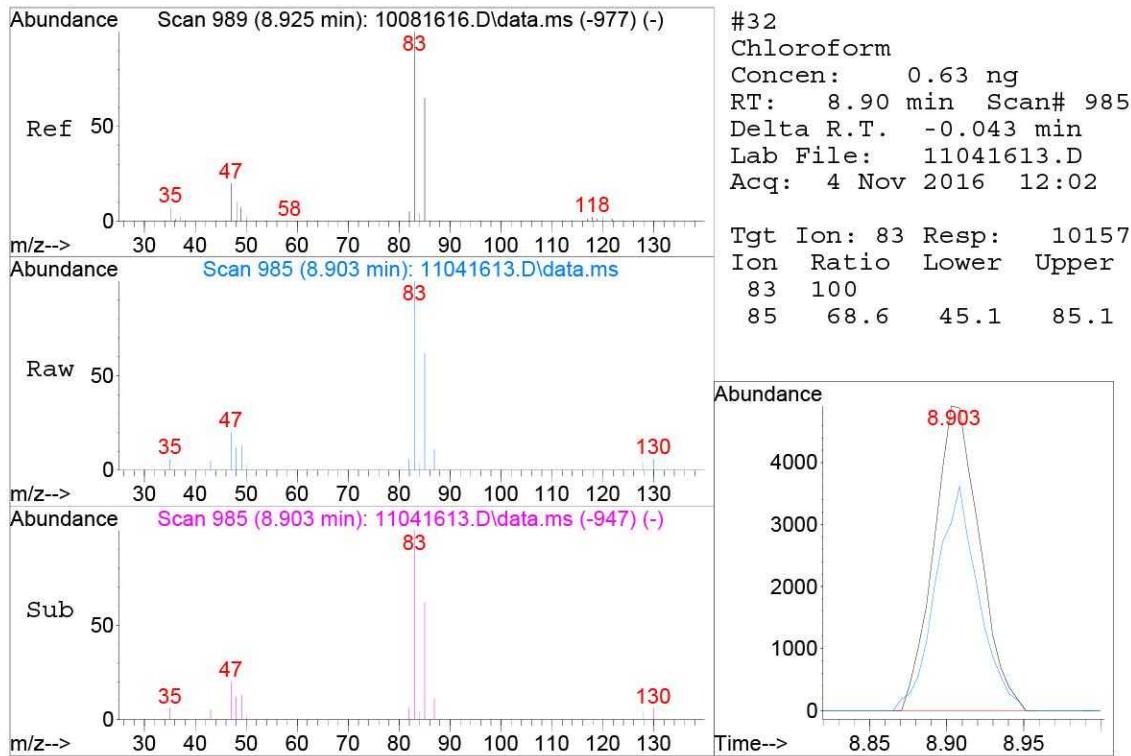
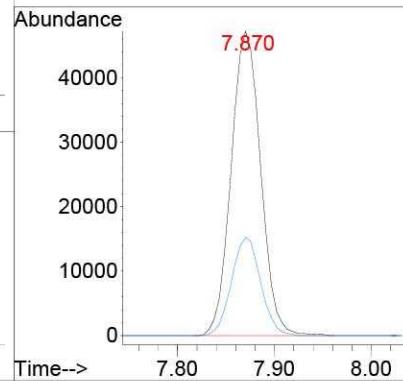
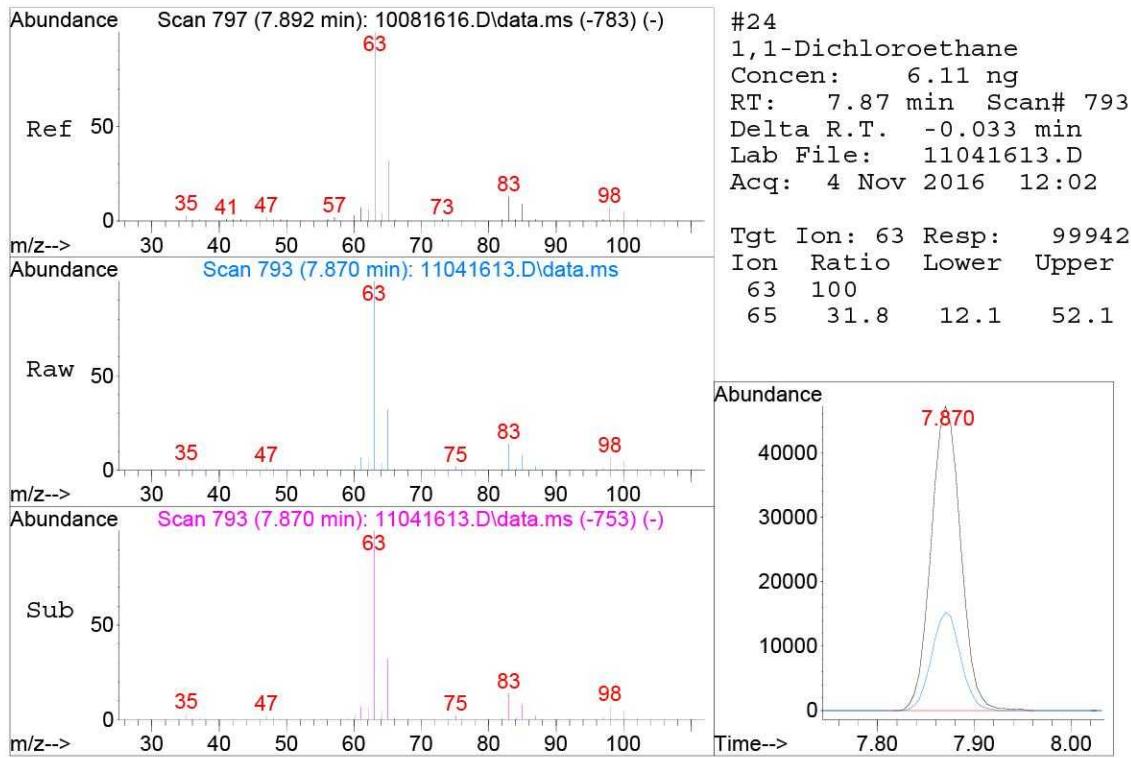
Operator: WA

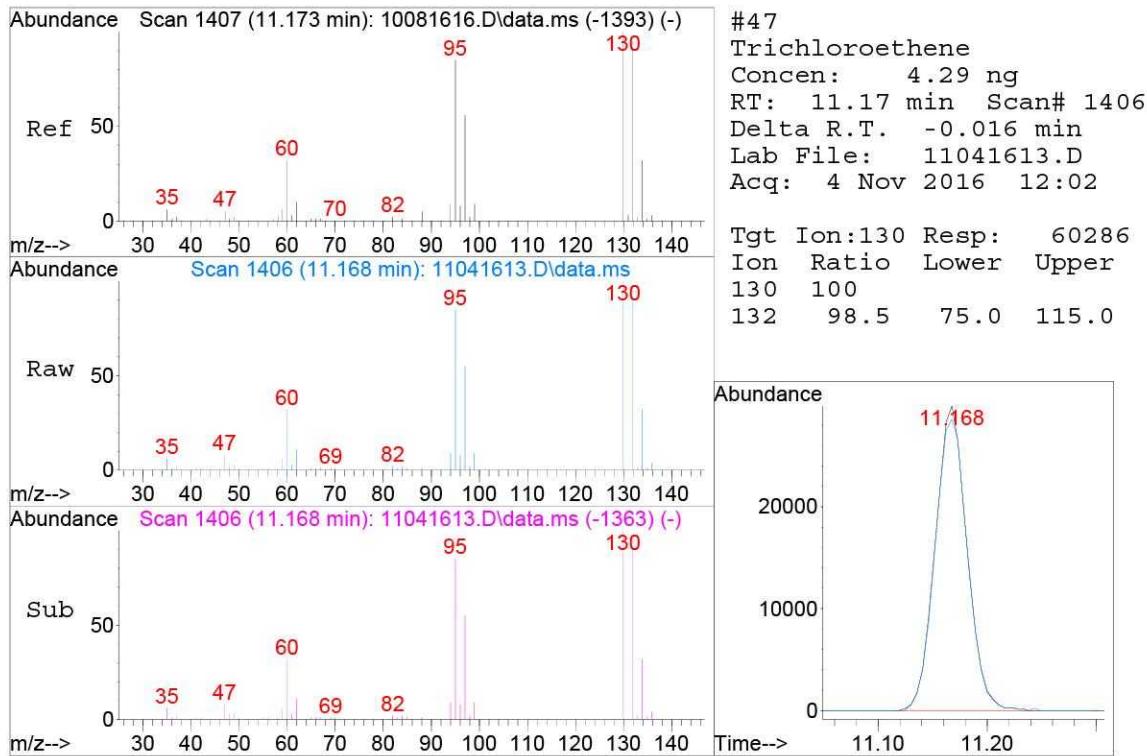
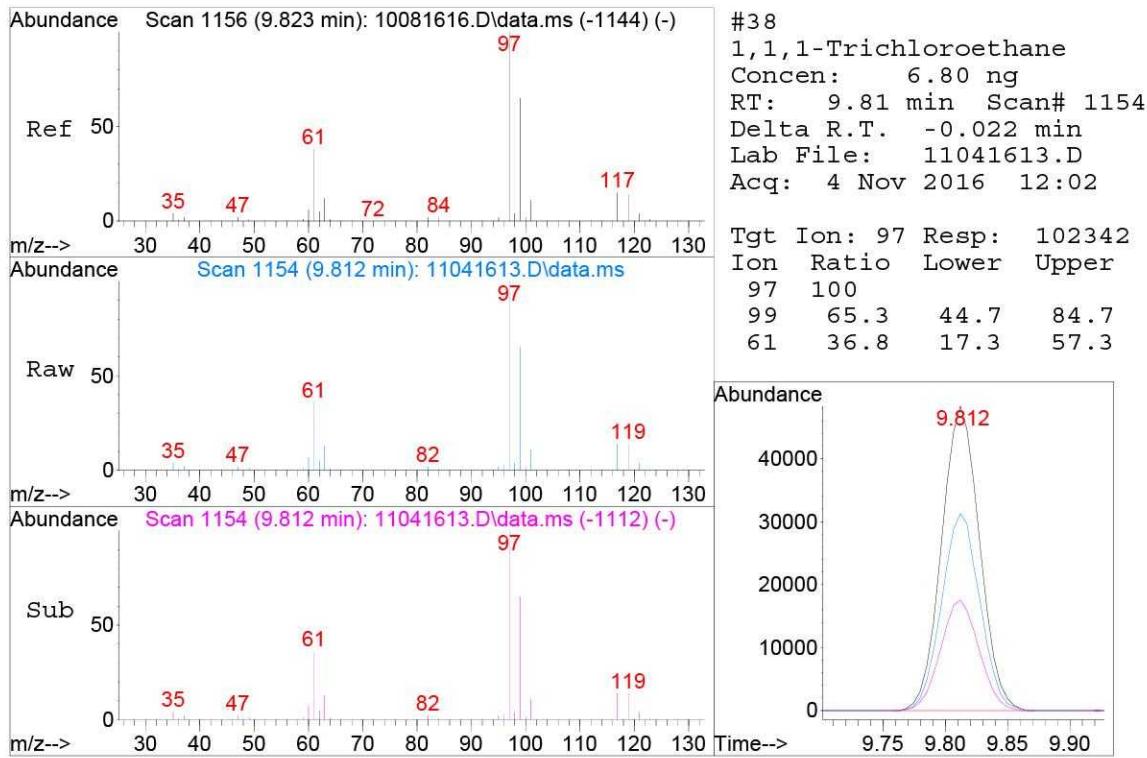
Quant Time: Nov 07 15:05:32 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

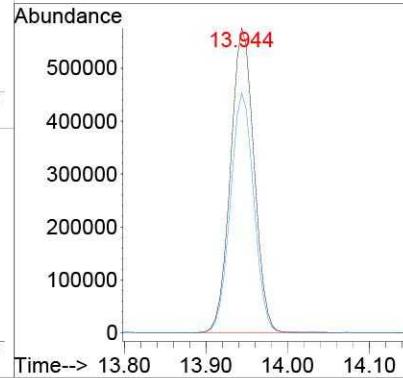
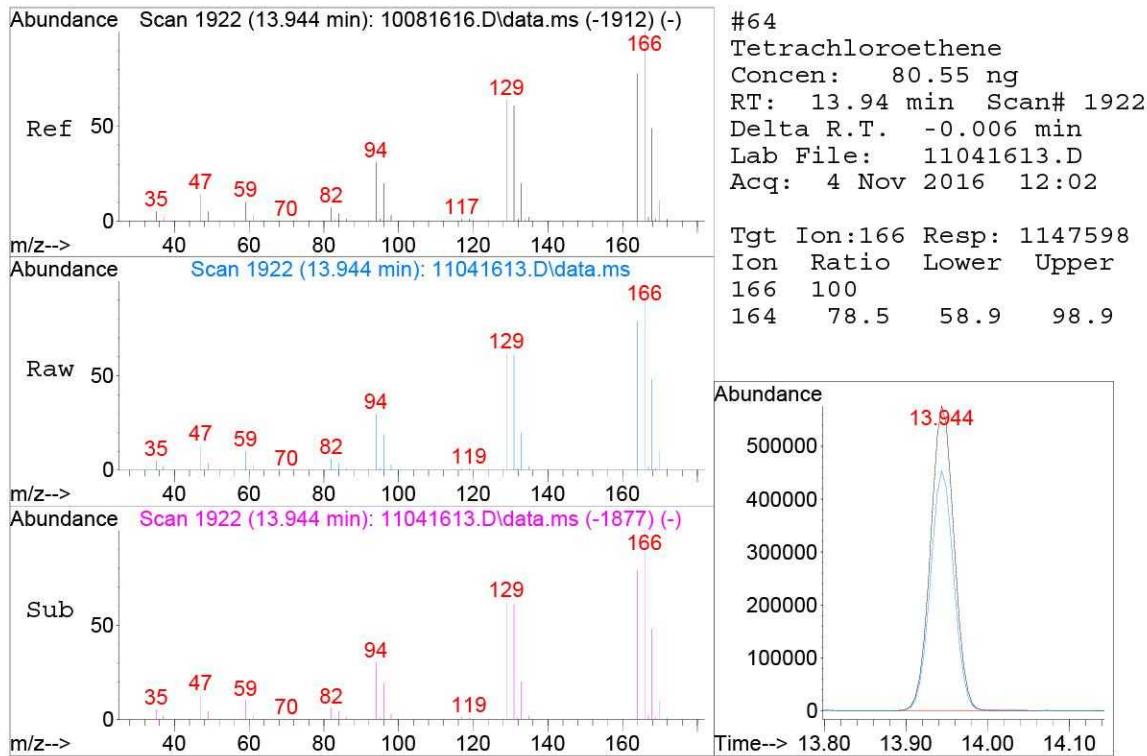
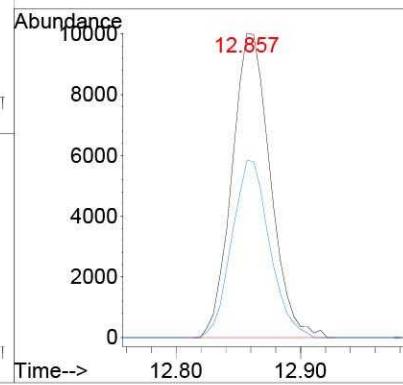
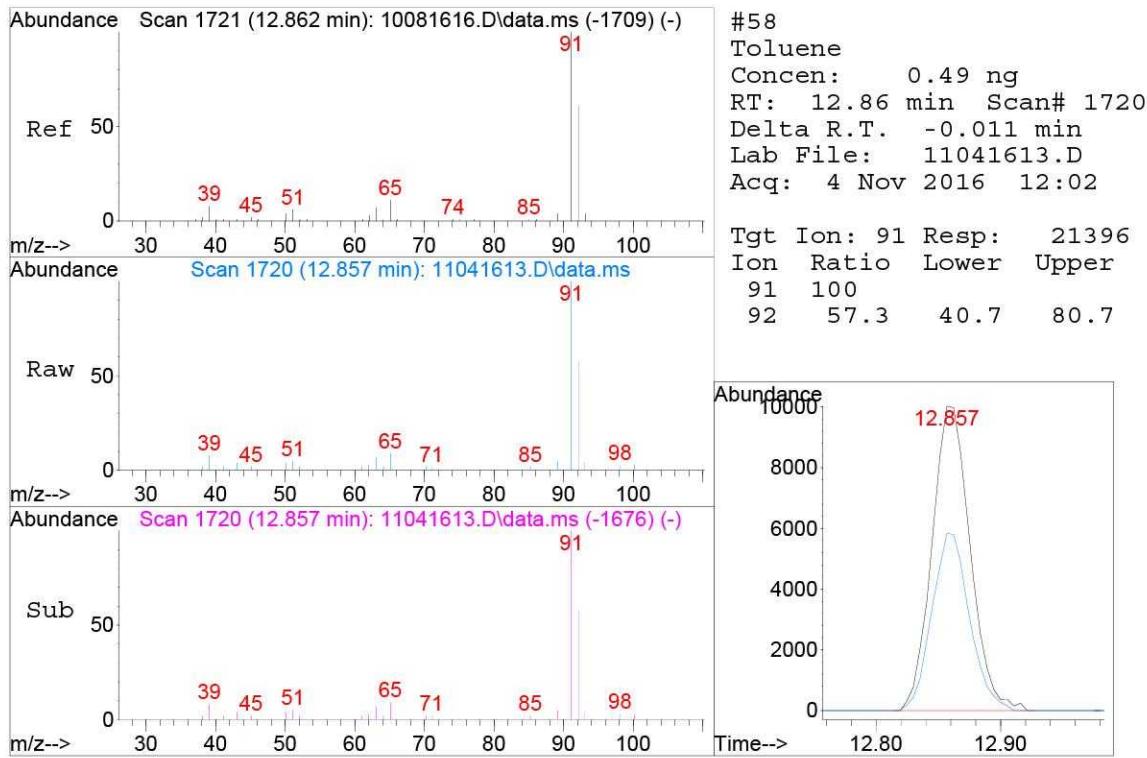


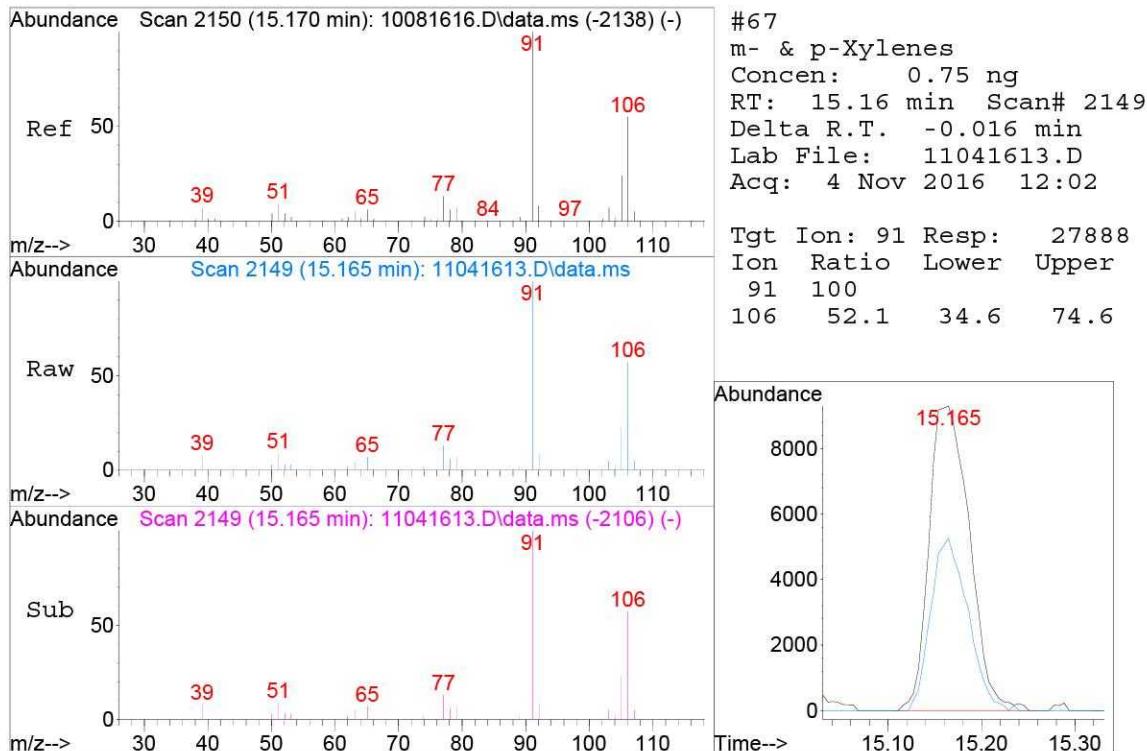
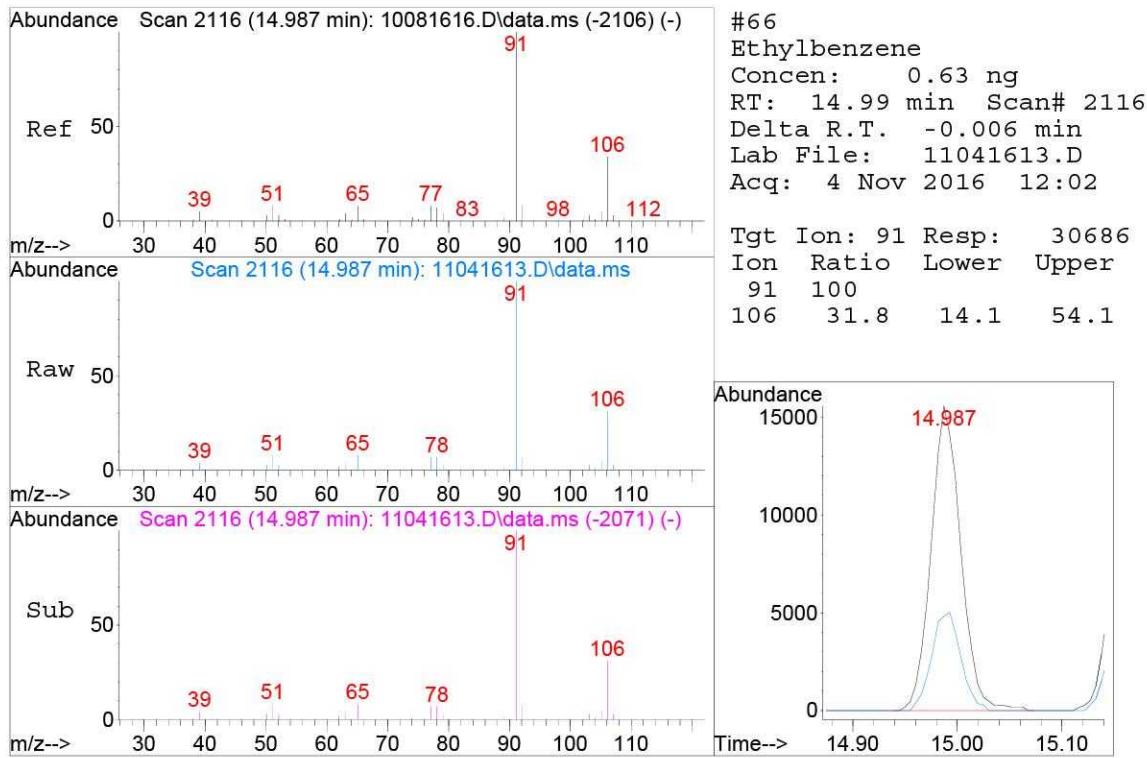


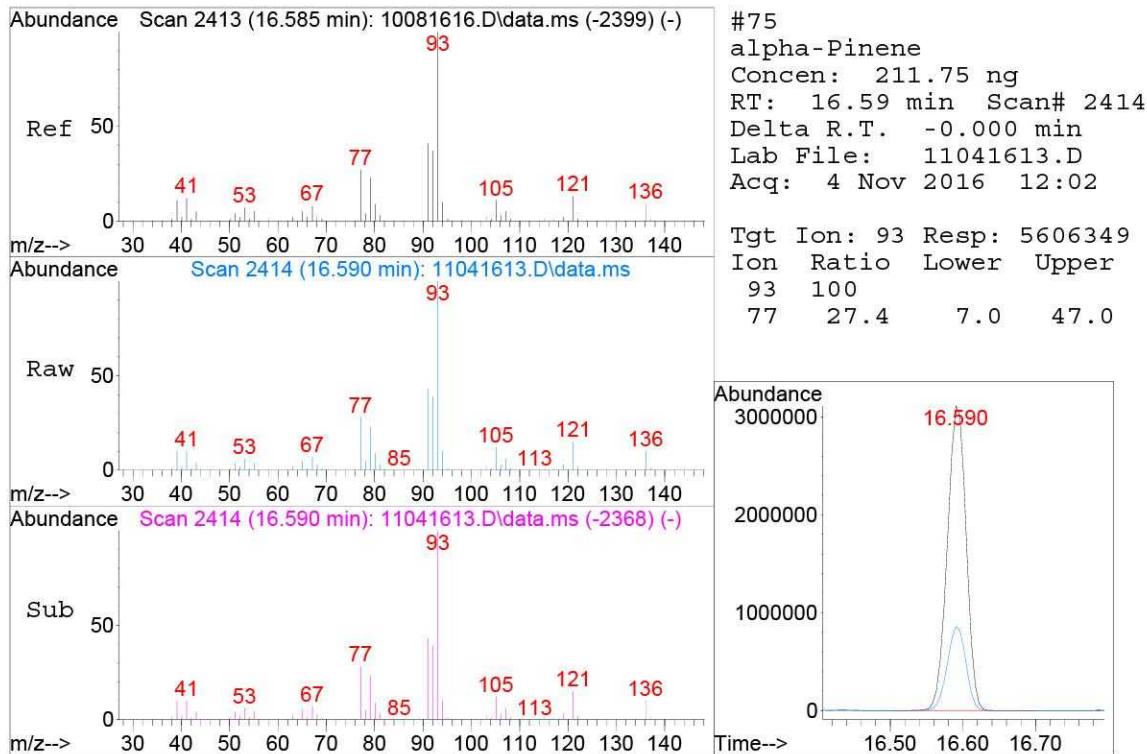
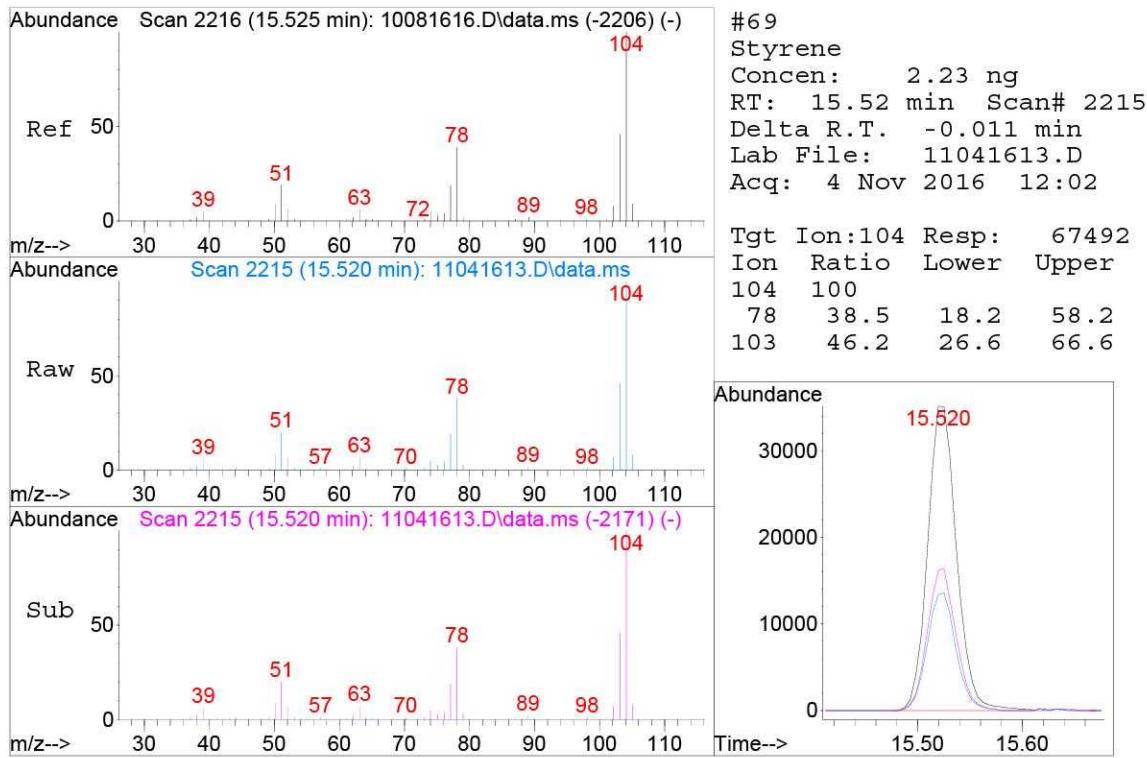












Data File: I:\MS08\Data\2016_11\04\11041617.D
 Acq On : 4 Nov 2016 14:12
 Sample : P1605059-009dil (15mL)
 Misc : S29-10041602
 ALS Vial : 9 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 07 15:09:19 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane (IS1)	8.78	130	112851	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	10.53	114	537401	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.56	82	210019	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.47	65	140920	12.467	ng	-0.03
Spiked Amount	12.500	Range	70 - 130	Recovery	=	99.76%
57) Toluene-d8 (SS2)	12.76	98	534795	12.799	ng	-0.01
Spiked Amount	12.500	Range	70 - 130	Recovery	=	102.40%
73) Bromofluorobenzene (SS3)	16.07	174	213524	12.367	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	98.96%

Target Compounds

					Qvalue
2) Propene	3.92	42	2999	N.D.	
3) Dichlorodifluoromethan...	0.00	85	0	N.D.	
4) Chloromethane	0.00	50	0	N.D.	
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.	
6) Vinyl Chloride	0.00	62	0	N.D.	
7) 1,3-Butadiene	0.00	54	0	N.D.	
8) Bromomethane	0.00	94	0	N.D.	
9) Chloroethane	0.00	64	0	N.D.	
10) Ethanol	5.40	45	1691	N.D.	
11) Acetonitrile	0.00	41	0	N.D.	
12) Acrolein	5.87	56	1690	N.D.	
13) Acetone	5.87	58	6338	0.799 ng	# 67
14) Trichlorofluoromethane	0.00	101	0	N.D.	
15) 2-Propanol (Isopropanol)	6.18	45	2064	N.D.	
16) Acrylonitrile	0.00	53	0	N.D.	
17) 1,1-Dichloroethene	6.65	96	277851	30.496 ng	99
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d	
19) Methylene Chloride	6.65	84	1941	N.D.	
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	
21) Trichlorotrifluoroethane	7.07	151	4665	0.489 ng	95
22) Carbon Disulfide	7.05	76	3351	N.D.	
23) trans-1,2-Dichloroethene	7.70	61	963	N.D.	
24) 1,1-Dichloroethane	7.87	63	35481	2.259 ng	100
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	
26) Vinyl Acetate	0.00	86	0	N.D.	
27) 2-Butanone (MEK)	8.16	72	523	N.D.	
28) cis-1,2-Dichloroethene	8.65	61	498	N.D.	
29) Diisopropyl Ether	0.00	87	0	N.D.	
30) Ethyl Acetate	8.65	61	498	N.D.	
31) n-Hexane	8.85	57	1877	N.D.	
32) Chloroform	8.91	83	3531	N.D.	
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.	
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.	
36) 1,2-Dichloroethane	0.00	62	0	N.D.	
38) 1,1,1-Trichloroethane	9.82	97	36869	2.496 ng	99
39) Isopropyl Acetate	0.00	61	0	N.D.	
40) 1-Butanol	10.18	56	520	N.D.	
41) Benzene	10.23	78	4357	N.D.	
42) Carbon Tetrachloride	0.00	117	0	N.D.	
43) Cyclohexane	10.48	84	1075	N.D.	
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.	
45) 1,2-Dichloropropane	0.00	63	0	N.D.	
46) Bromodichloromethane	0.00	83	0	N.D.	
47) Trichloroethene	11.17	130	20634	1.497 ng	98
48) 1,4-Dioxane	0.00	88	0	N.D.	
49) 2,2,4-Trimethylpentane...	11.22	57	172 1696	172 of 288	N.D.

Data File: I:\MS08\Data\2016_11\04\11041617.D
 Acq On : 4 Nov 2016 14:12
 Sample : P1605059-009dil (15mL)
 Misc : S29-10041602
 ALS Vial : 9 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 07 15:09:19 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

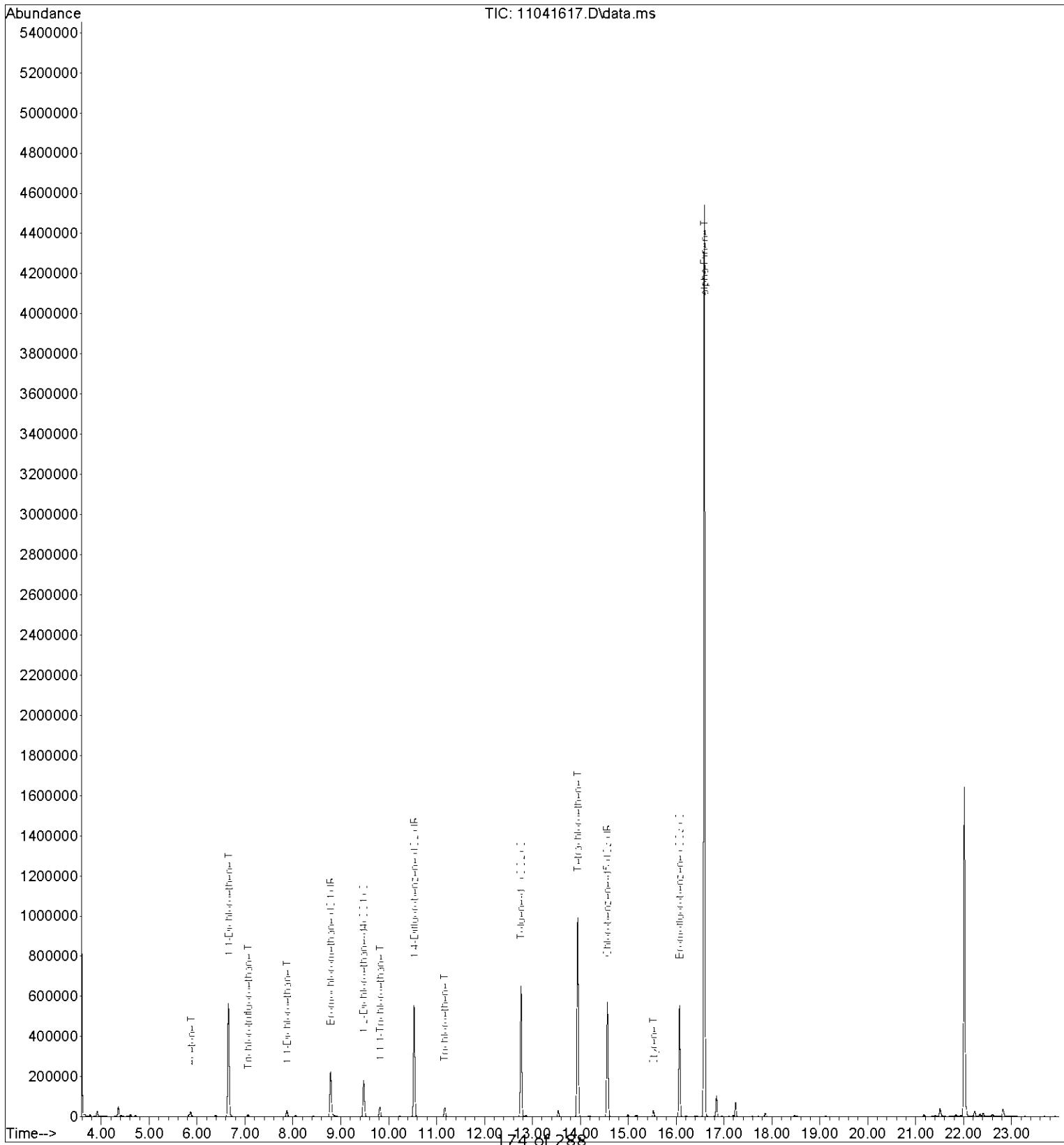
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
50) Methyl Methacrylate	0.00	100	0	N.D.		
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.86	91	7036	N.D.		
59) 2-Hexanone	0.00	43	0	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.53	43	7124	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	13.94	166	397502	29.935	ng	100
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	14.99	91	10598	N.D.		
67) m- & p-Xylenes	15.16	91	10321	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	15.53	104	22108	0.785	ng	100
70) o-Xylene	15.64	91	1439	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	16.21	105	3840	N.D.		
75) alpha-Pinene	16.59	93	2079168	84.257	ng	100
76) n-Propylbenzene	16.70	91	2489	N.D.		
77) 3-Ethyltoluene	16.80	105	1491	N.D.		
78) 4-Ethyltoluene	16.84	105	3415	N.D.		
79) 1,3,5-Trimethylbenzene	16.84	105	3415	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.25	105	912	N.D.		
82) 1,2,4-Trimethylbenzene	17.31	105	990	N.D.		
83) n-Decane	17.39	57	467	N.D.		
84) Benzyl Chloride	17.53	91	614	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D.		
88) 4-Isopropyltoluene (p-...)	17.71	119	2620	N.D.		
89) 1,2,3-Trimethylbenzene	17.88	105	700	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	17.85	68	3296	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	18.47	57	1484	N.D.		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	0.00	128	0	N.D.		
96) n-Dodecane	0.00	57	0	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	0.00	119	0	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D.		

(#= qualifier out of range (m)= manual integration (+)= signals summed)

Data File: I:\MS08\Data\2016_11\04\11041617.D
 Acq On : 4 Nov 2016 14:12
 Sample : P1605059-009dil (15mL)
 Misc : S29-10041602
 ALS Vial : 9 Sample Multiplier: 1

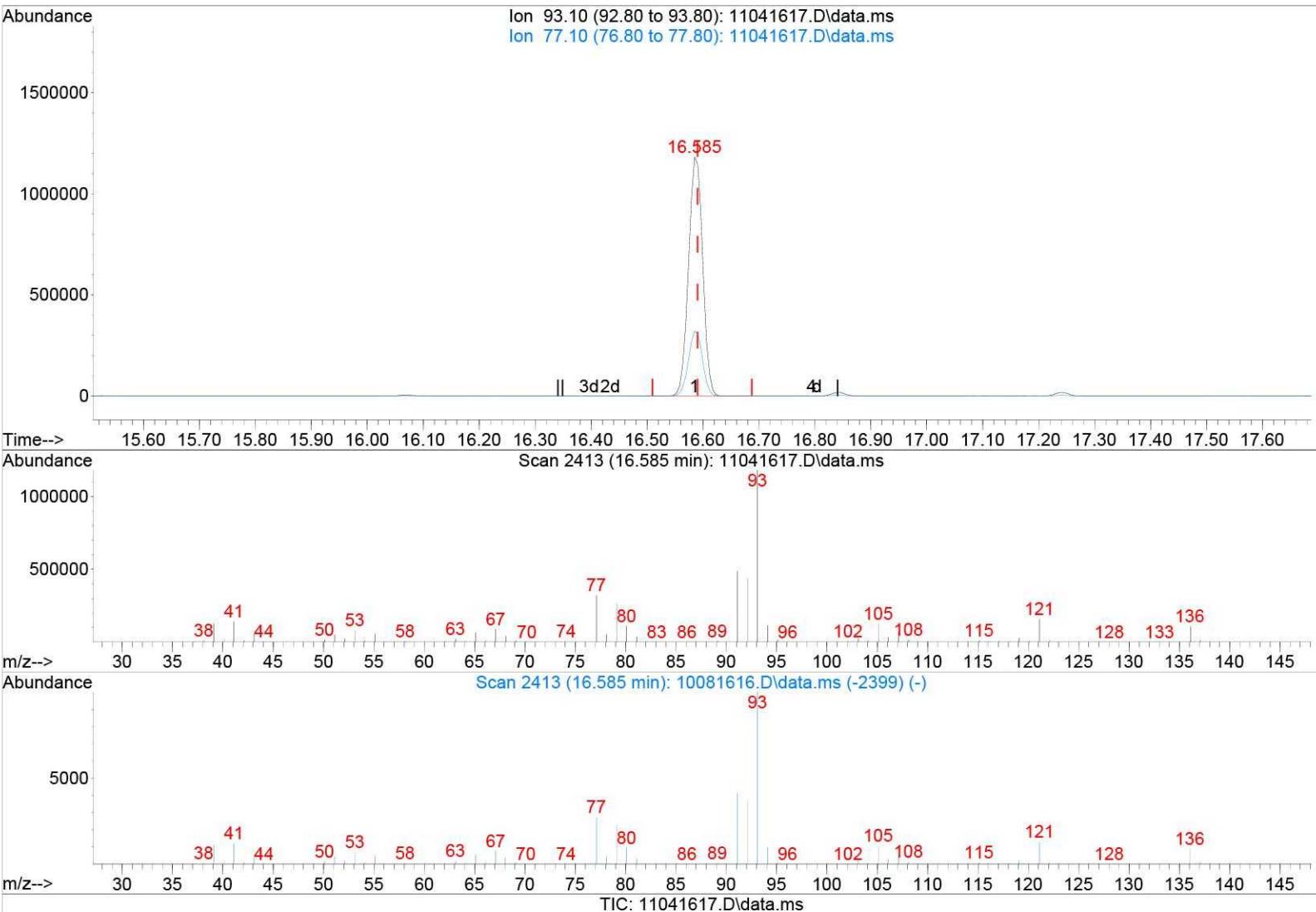
Operator: WA

Quant Time: Nov 07 15:09:19 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M



Data File: I:\MS08\Data\2016_11\04\11041617.D
 Acq On : 4 Nov 2016 14:12
 Sample : P1605059-009dil (15mL)
 Misc : S29-10041602
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 04 14:09:43 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M



(75) alpha-Pinene (T)

16.585min (-0.005) 84.26ng

response 2079168

Ion	Exp%	Act%
93.10	100	100
77.10	27.00	26.90
0.00	0.00	0.00
0.00	0.00	0.00

Data File: I:\MS08\Data\2016_11\04\11041615.D
 Acq On : 4 Nov 2016 13:07
 Sample : P1605059-010 (40mL)
 Misc : S29-10041602
 ALS Vial : 10 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 07 15:07:18 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane (IS1)	8.78	130	117863	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	10.53	114	556212	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.56	82	227411	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.47	65	151755	12.855	ng	-0.03
Spiked Amount	12.500	Range	70 - 130	Recovery	=	102.88%
57) Toluene-d8 (SS2)	12.77	98	580116	12.822	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	102.56%
73) Bromofluorobenzene (SS3)	16.07	174	226763	12.129	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	97.04%

Target Compounds

					Qvalue	
2) Propene	3.89	42	8261	0.737	ng	# 27
3) Dichlorodifluoromethan...	4.00	85	1116	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.37	45	7730	1.038	ng	94
11) Acetonitrile	0.00	41	0	N.D.		
12) Acrolein	0.00	56	0	N.D. d		
13) Acetone	5.85	58	29232	3.529	ng	# 73
14) Trichlorofluoromethane	6.01	101	450	N.D.		
15) 2-Propanol (Isopropanol)	6.14	45	10710	0.465	ng	96
16) Acrylonitrile	6.39	53	203	N.D.		
17) 1,1-Dichloroethene	6.65	96	846280	88.934	ng	99
18) 2-Methyl-2-Propanol (t...	6.78	59	1009	N.D.		
19) Methylene Chloride	0.00	84	0	N.D. d		
20) 3-Chloro-1-propene (Al...	6.85	41	560	N.D.		
21) Trichlorotrifluoroethane	7.07	151	13892	1.394	ng	98
22) Carbon Disulfide	7.05	76	4006	N.D.		
23) trans-1,2-Dichloroethene	7.69	61	3550	N.D.		
24) 1,1-Dichloroethane	7.87	63	109152	6.653	ng	99
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	8.06	86	615	N.D.		
27) 2-Butanone (MEK)	8.26	72	2267	N.D.		
28) cis-1,2-Dichloroethene	8.64	61	1911	N.D.		
29) Diisopropyl Ether	8.91	87	1102	N.D.		
30) Ethyl Acetate	8.86	61	1189	N.D.		
31) n-Hexane	8.85	57	6485	N.D.		
32) Chloroform	8.91	83	11192	0.687	ng	99
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	9.81	97	117180	7.666	ng	99
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D. d		
41) Benzene	10.23	78	17423	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	10.48	84	3481	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	11.17	83	778	N.D.		
47) Trichloroethene	11.17	130	65047	4.559	ng	97
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	11.22	57	176 64928	8288	N.D.	

Data File: I:\MS08\Data\2016_11\04\11041615.D
 Acq On : 4 Nov 2016 13:07
 Sample : P1605059-010 (40mL)
 Misc : S29-10041602
 ALS Vial : 10 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 07 15:07:18 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

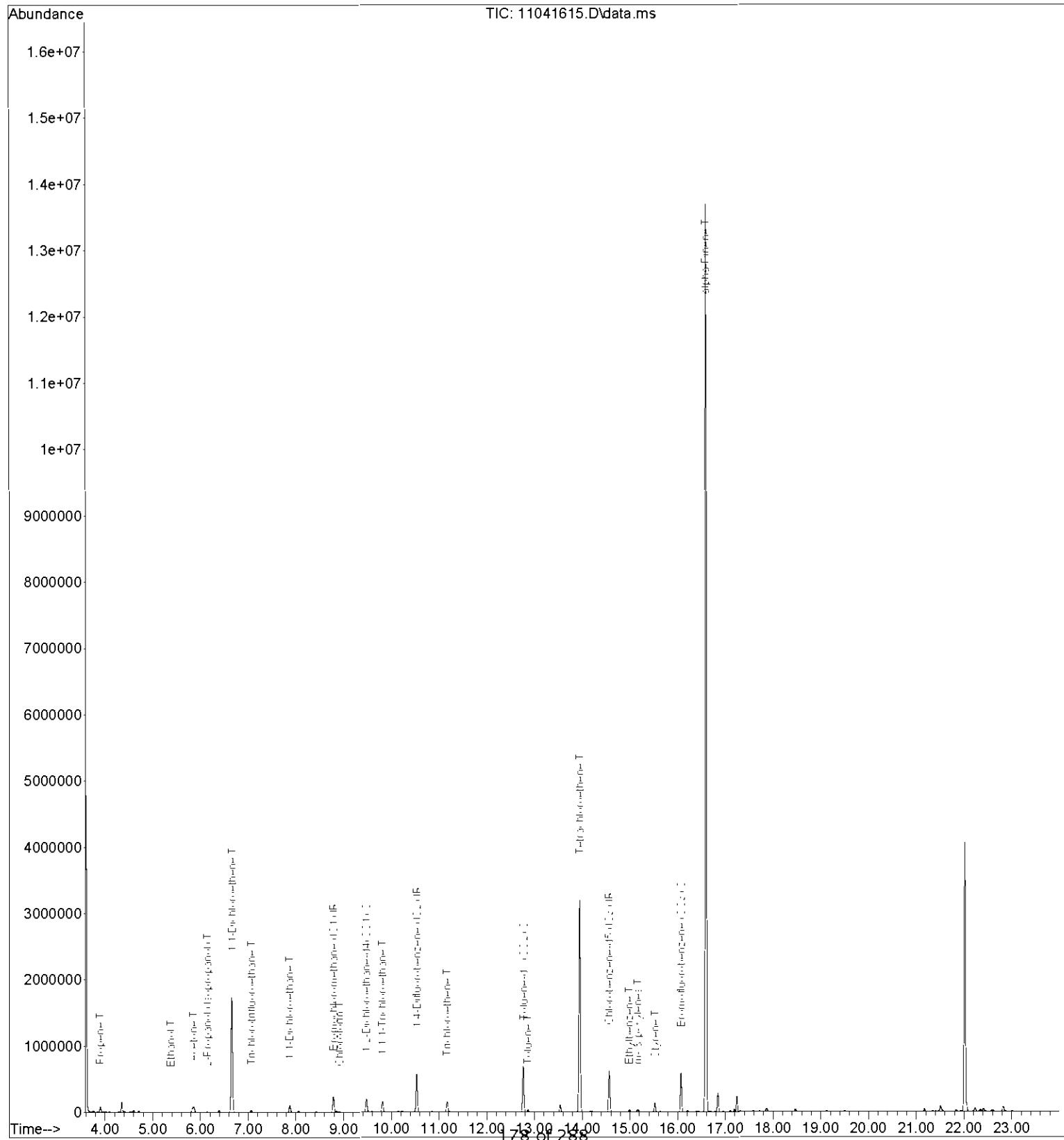
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
50) Methyl Methacrylate	0.00	100	0	N.D.		
51) n-Heptane	11.44	71	1254	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.86	91	28611	0.644	ng	97
59) 2-Hexanone	13.09	43	970	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D. d		
63) n-Octane	13.80	57	632	N.D.		
64) Tetrachloroethene	13.94	166	1267079	88.125	ng	99
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	14.99	91	34090	0.696	ng	99
67) m- & p-Xylenes	15.16	91	33940	0.901	ng	97
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	15.52	104	79987	2.624	ng	99
70) o-Xylene	15.63	91	4744	N.D.		
71) n-Nonane	15.84	43	1541	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	16.20	105	12669	N.D.		
75) alpha-Pinene	16.59	93	6333172	237.020	ng	99
76) n-Propylbenzene	16.70	91	7777	N.D.		
77) 3-Ethyltoluene	16.79	105	5121	N.D.		
78) 4-Ethyltoluene	16.84	105	9690	N.D.		
79) 1,3,5-Trimethylbenzene	16.91	105	1235	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.10	105	1390	N.D.		
82) 1,2,4-Trimethylbenzene	17.31	105	3631	N.D.		
83) n-Decane	17.40	57	2265	N.D.		
84) Benzyl Chloride	17.50	91	772	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	17.71	105	1229	N.D.		
88) 4-Isopropyltoluene (p-...)	17.71	119	4536	N.D.		
89) 1,2,3-Trimethylbenzene	17.71	105	1229	N.D.		
90) 1,2-Dichlorobenzene	17.84	146	1311	N.D.		
91) d-Limonene	17.85	68	6727	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	18.60	57	1068	N.D.		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	19.58	128	678	N.D.		
96) n-Dodecane	19.58	57	1311	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	15.33	55	554	N.D.		
99) tert-Butylbenzene	17.30	119	437	N.D.		
100) n-Butylbenzene	18.10	91	525	N.D.		

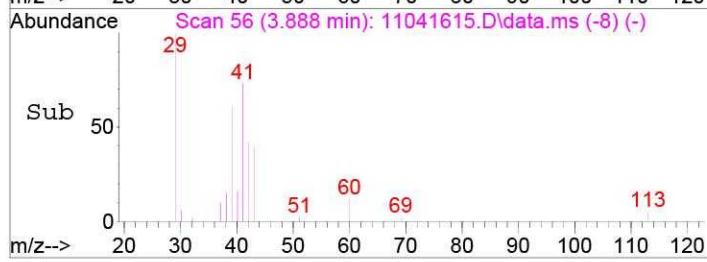
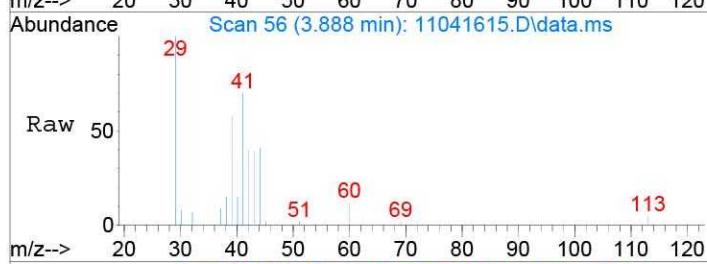
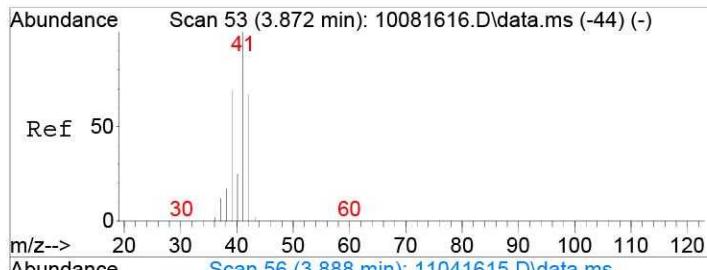
(#= qualifier out of range (m)= manual integration (+)= signals summed

Data File: I:\MS08\Data\2016_11\04\11041615.D
Acq On : 4 Nov 2016 13:07
Sample : P1605059-010 (40mL)
Misc : S29-10041602
ALS Vial : 10 Sample Multiplier: 1

Operator: WA

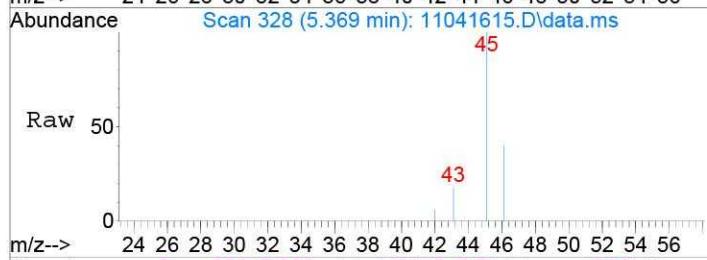
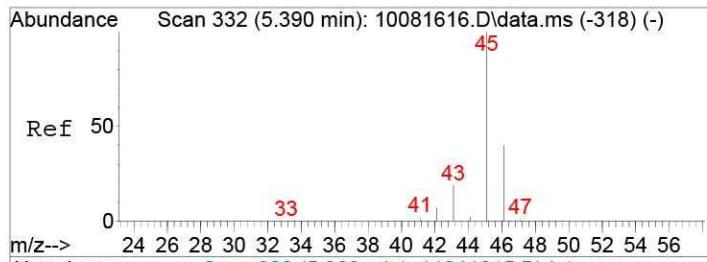
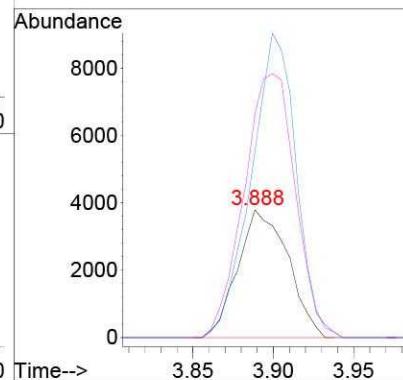
Quant Time: Nov 07 15:07:18 2016
Quant Method : I:\MS08\Methods\R8100816.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 12 15:54:53 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M





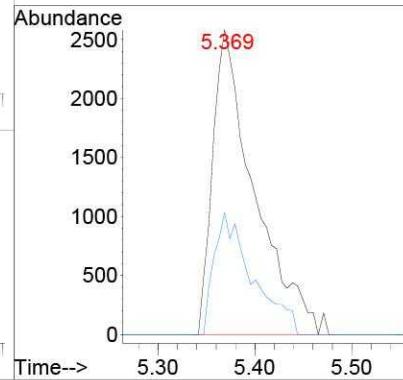
#2
Propene
Concen: 0.74 ng
RT: 3.89 min Scan# 56
Delta R.T. 0.010 min
Lab File: 11041615.D
Acq: 4 Nov 2016 13:07

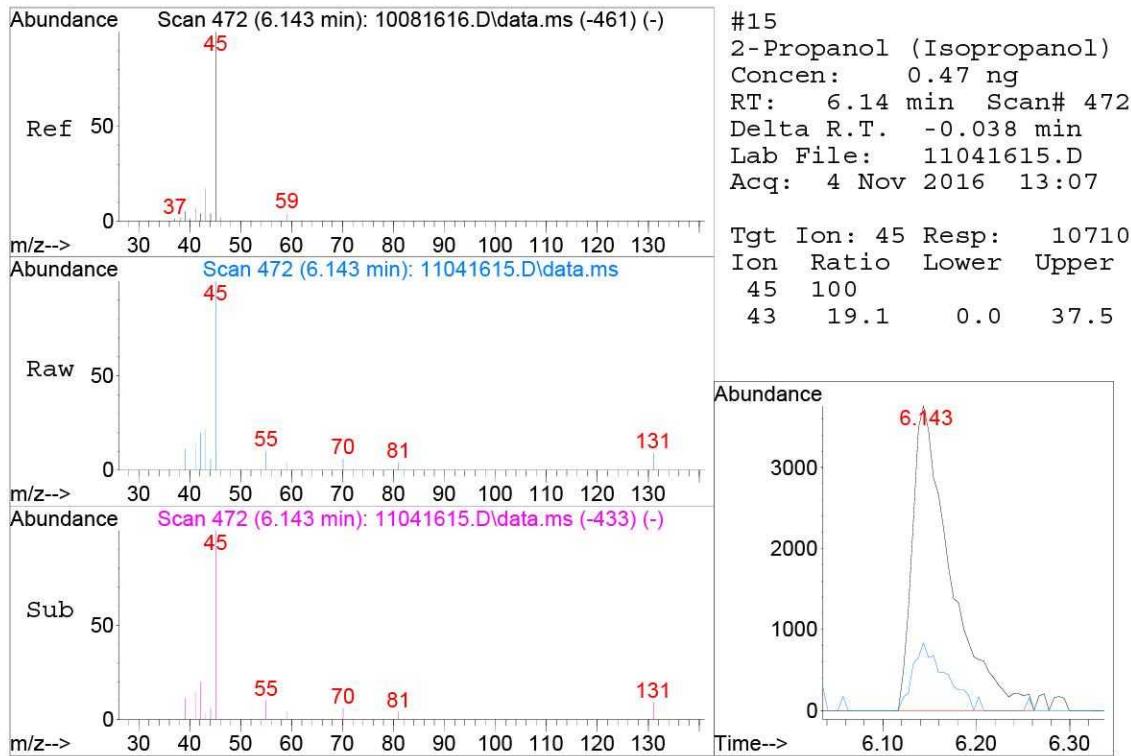
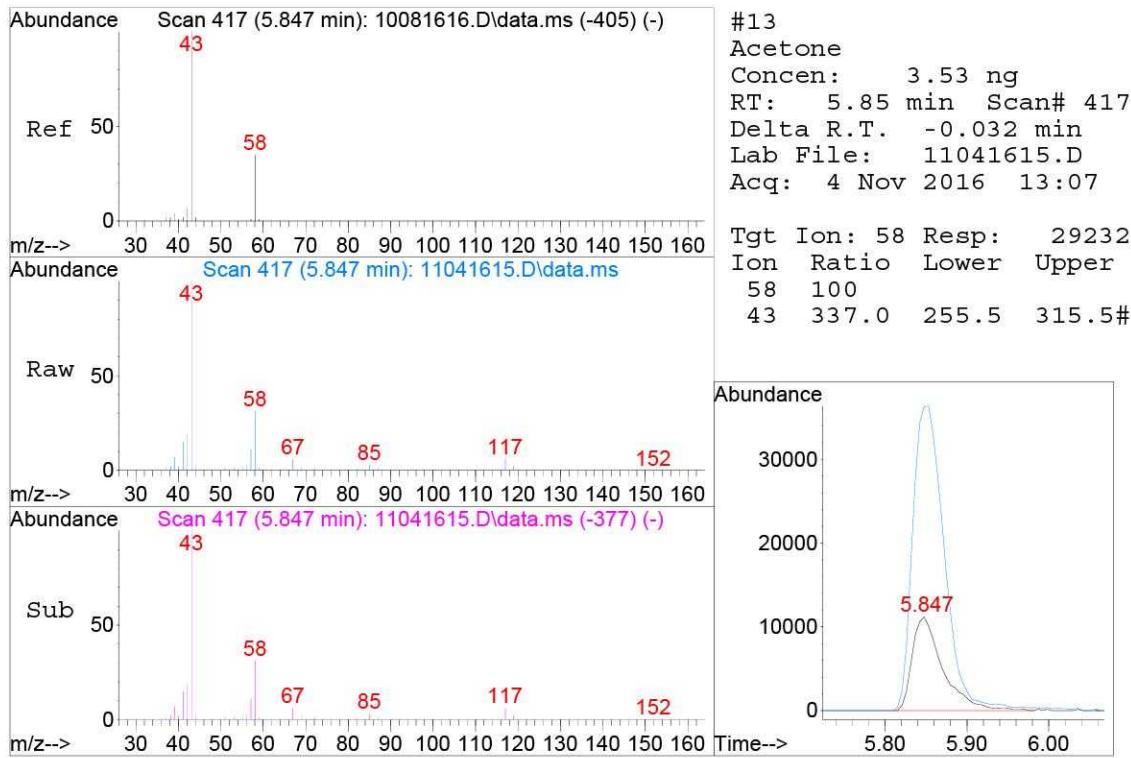
Tgt Ion: 42 Resp: 8261
Ion Ratio Lower Upper
42 100
39 213.0 83.4 123.4#
41 210.9 128.8 168.8#

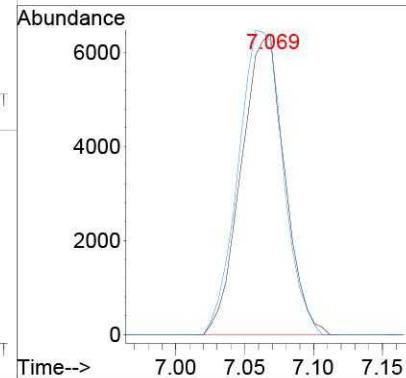
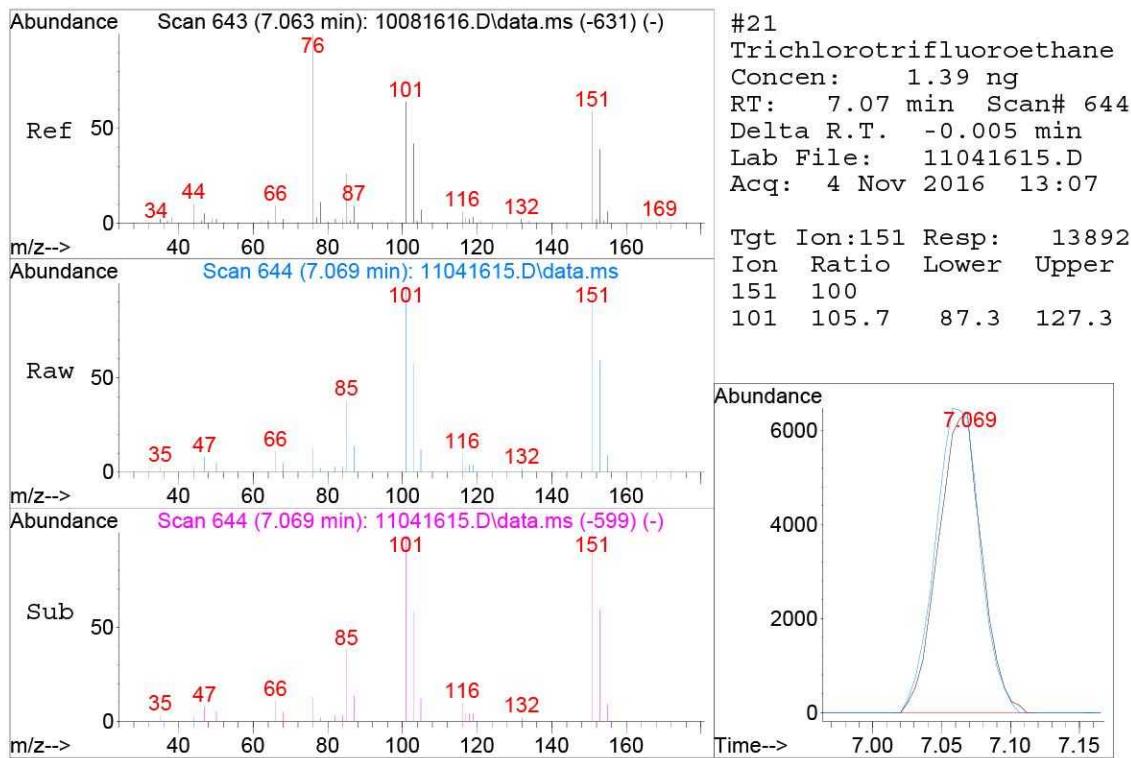
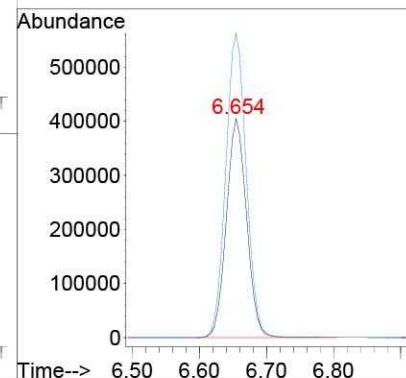
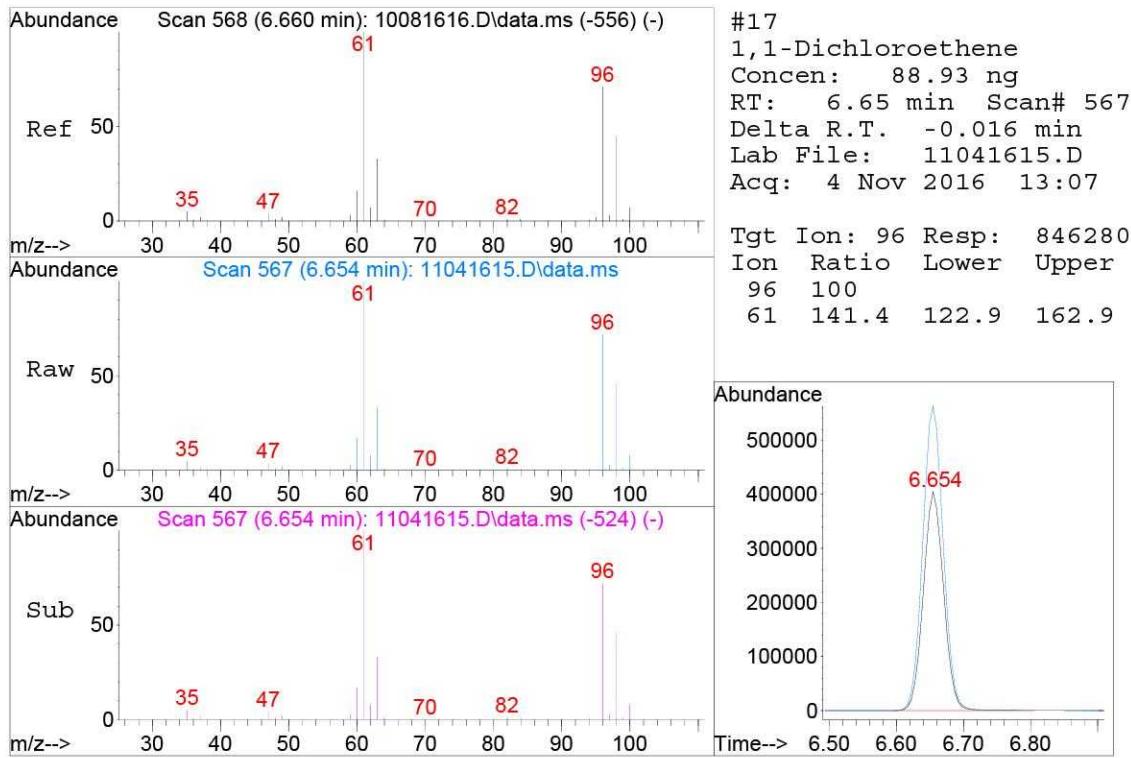


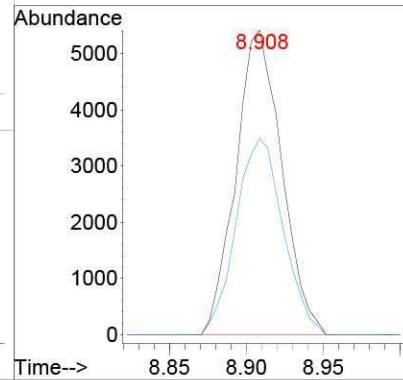
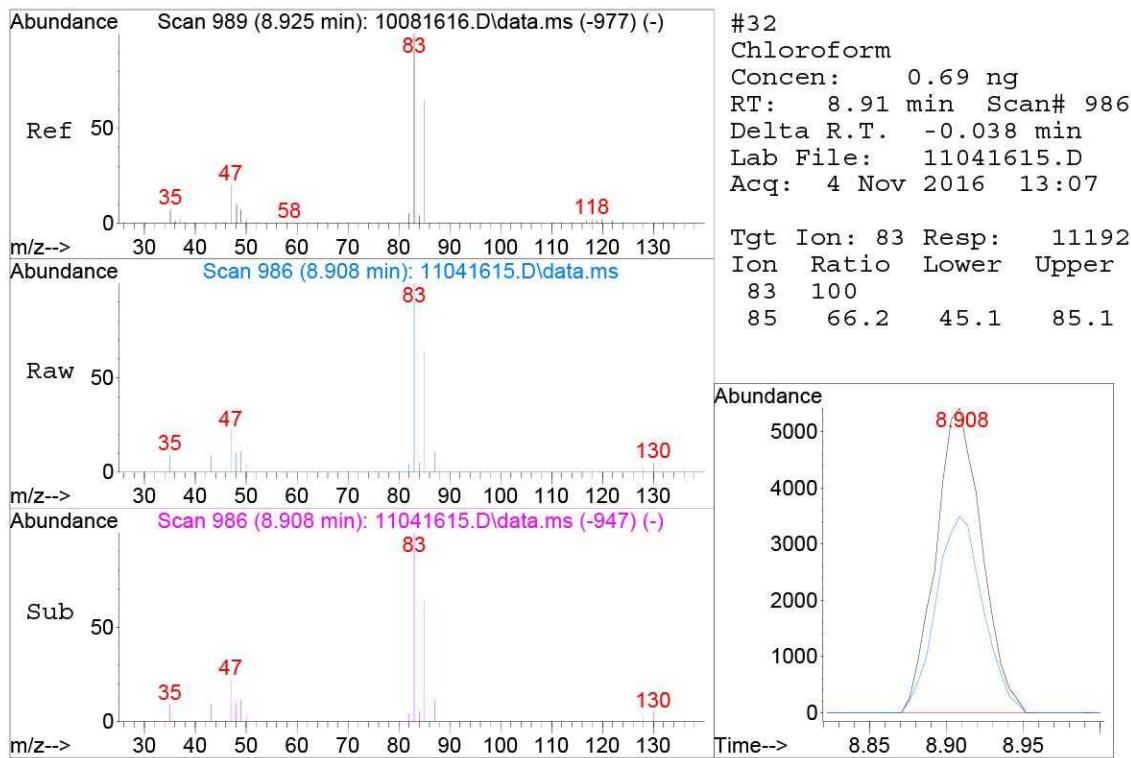
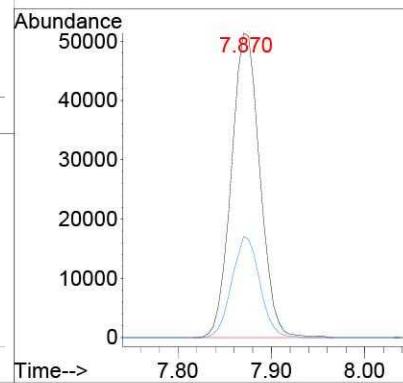
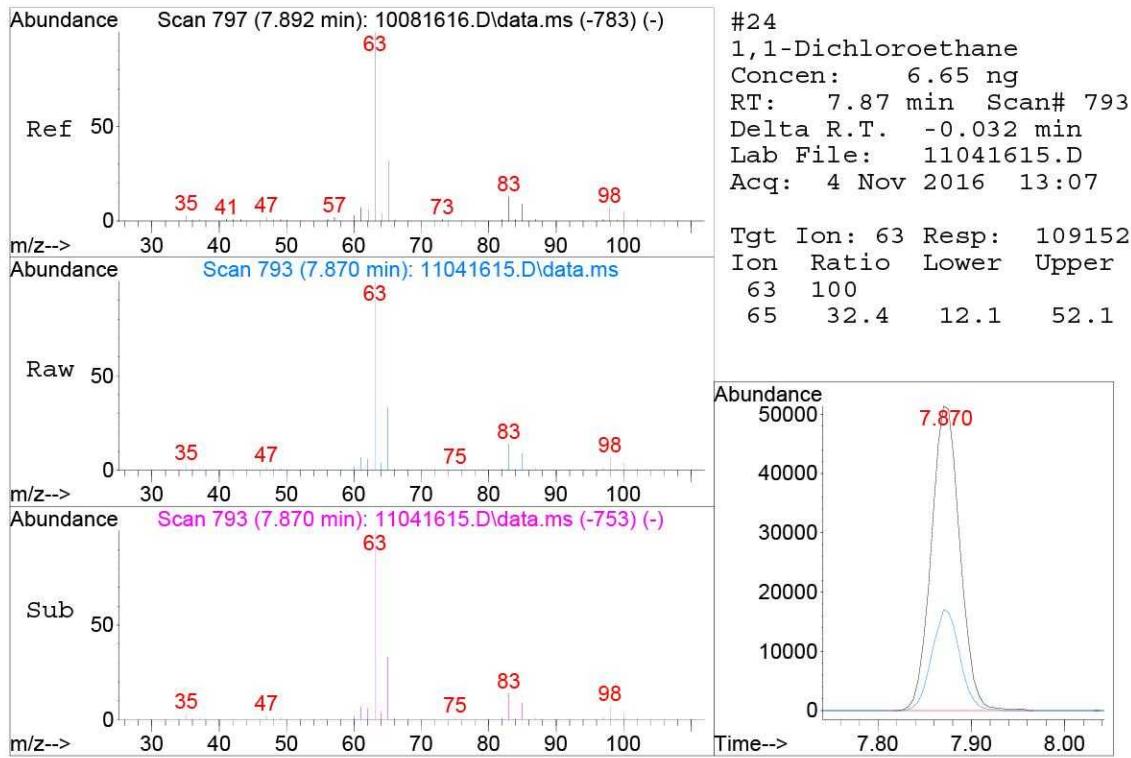
#10
Ethanol
Concen: 1.04 ng
RT: 5.37 min Scan# 328
Delta R.T. -0.070 min
Lab File: 11041615.D
Acq: 4 Nov 2016 13:07

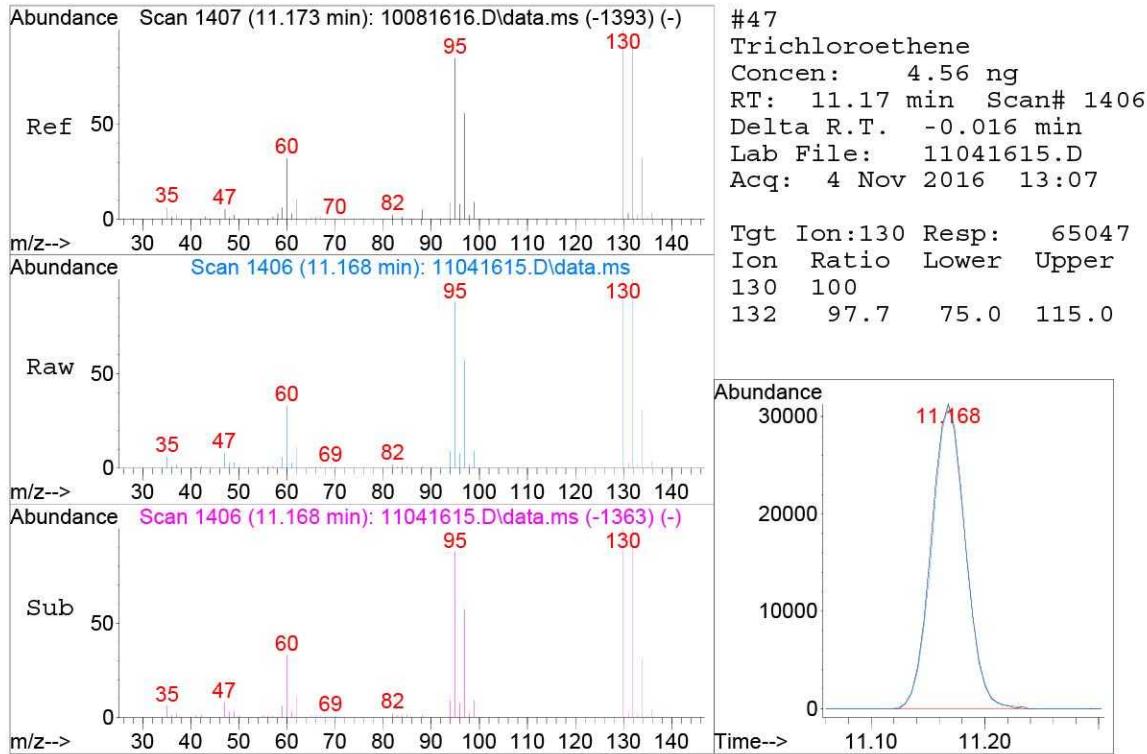
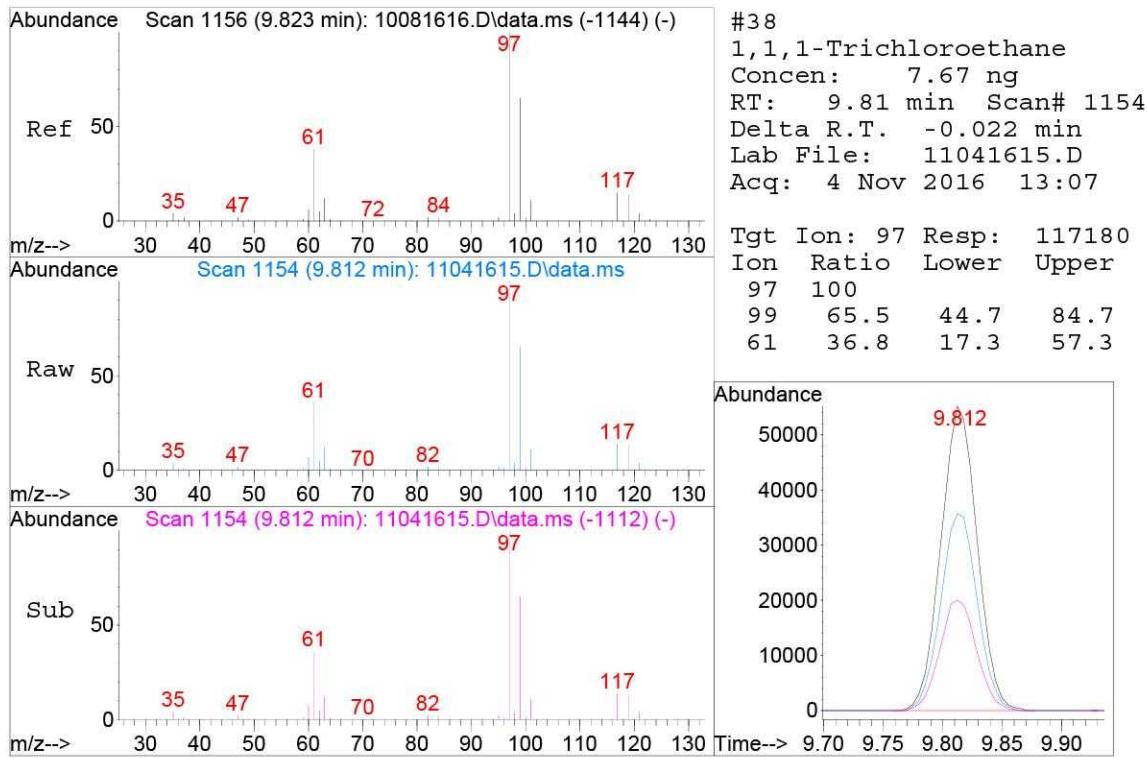
Tgt Ion: 45 Resp: 7730
Ion Ratio Lower Upper
45 100
46 36.8 20.5 60.5

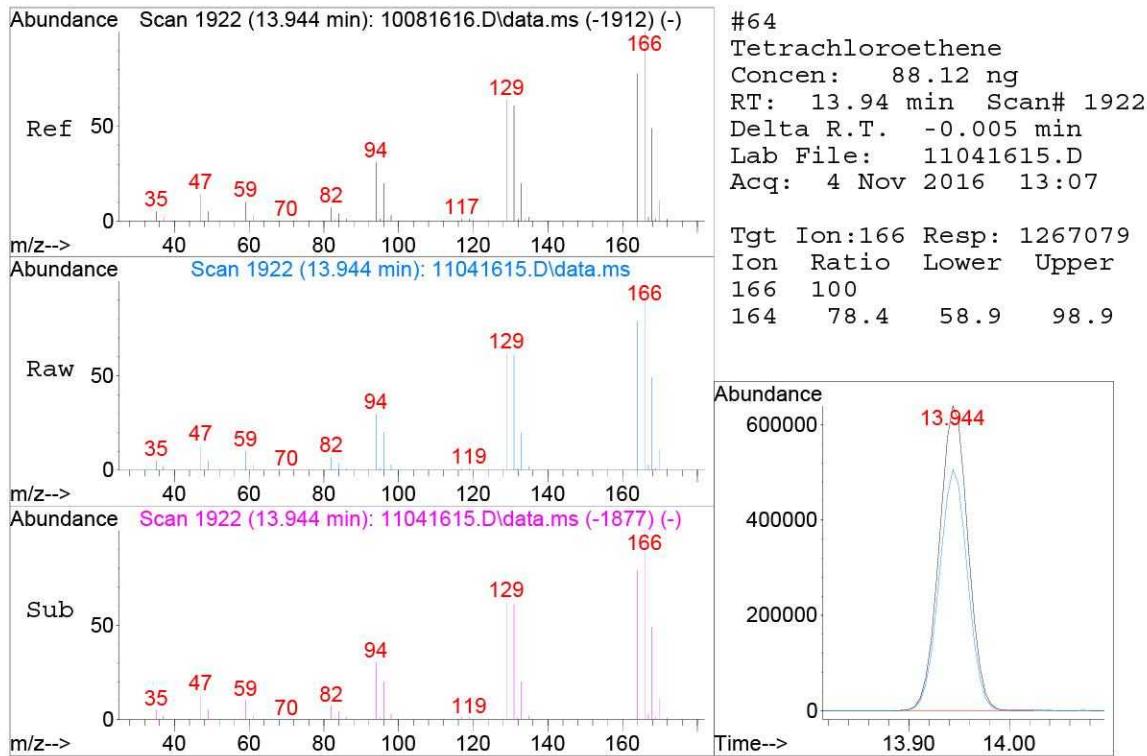
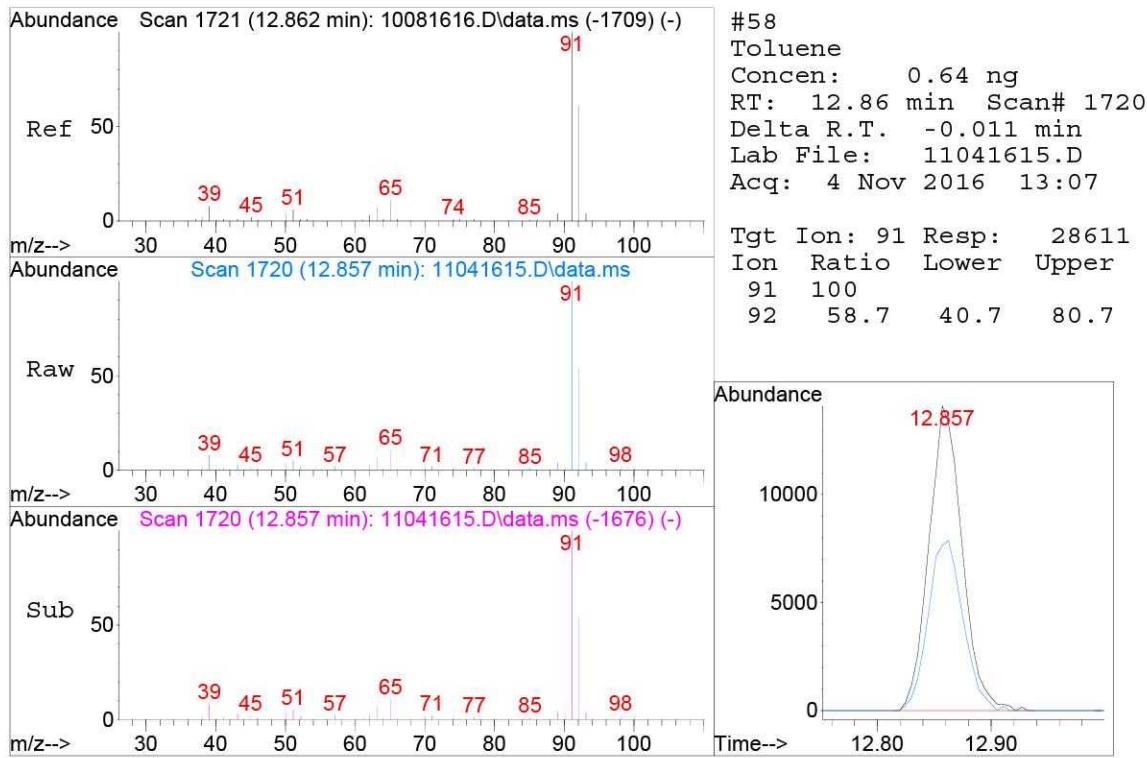


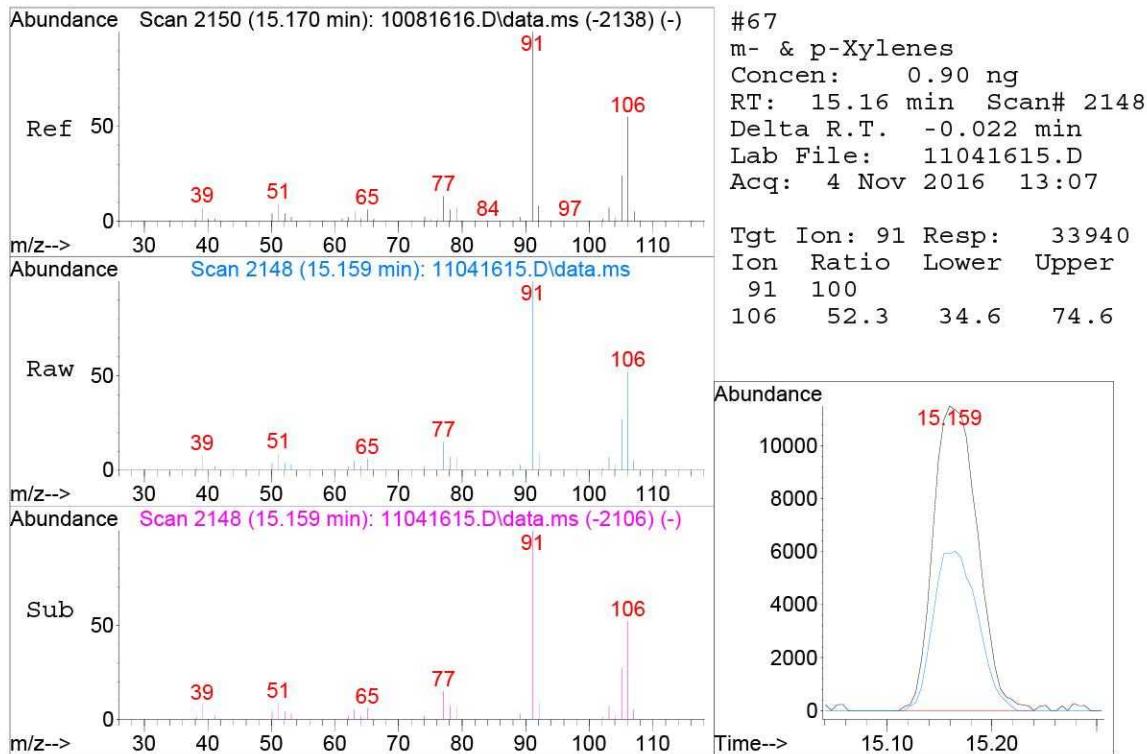
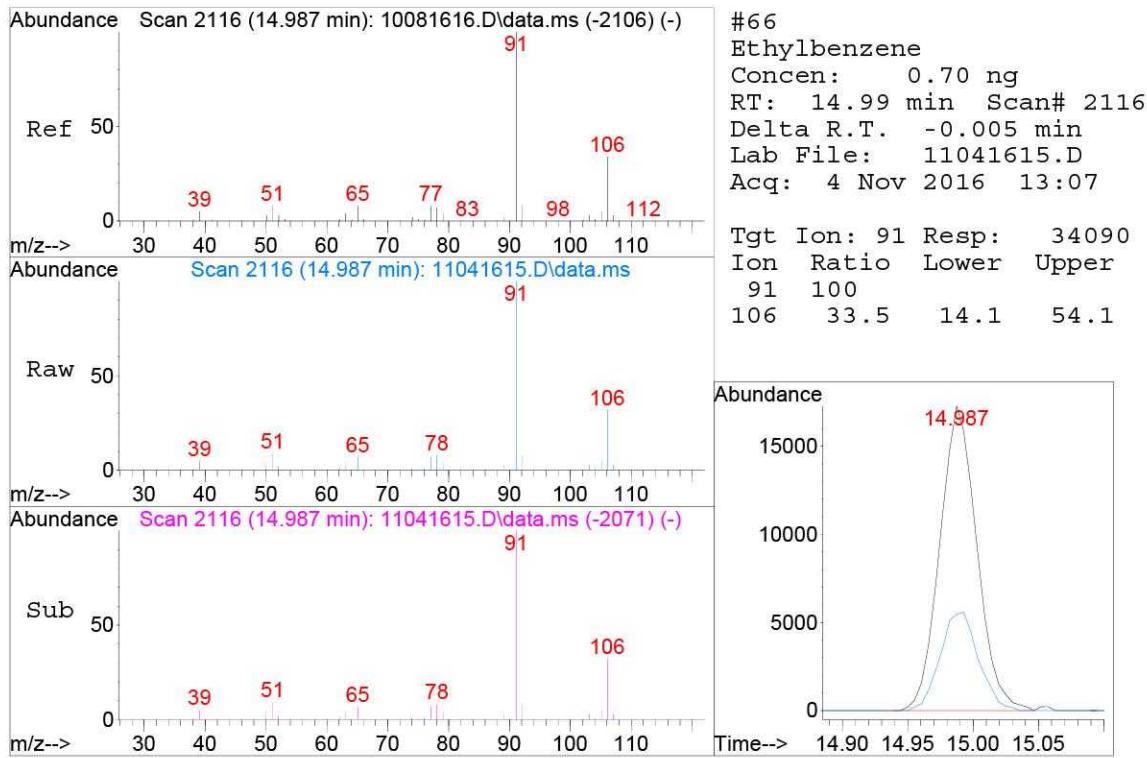


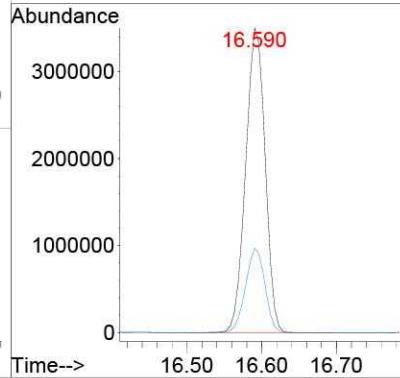
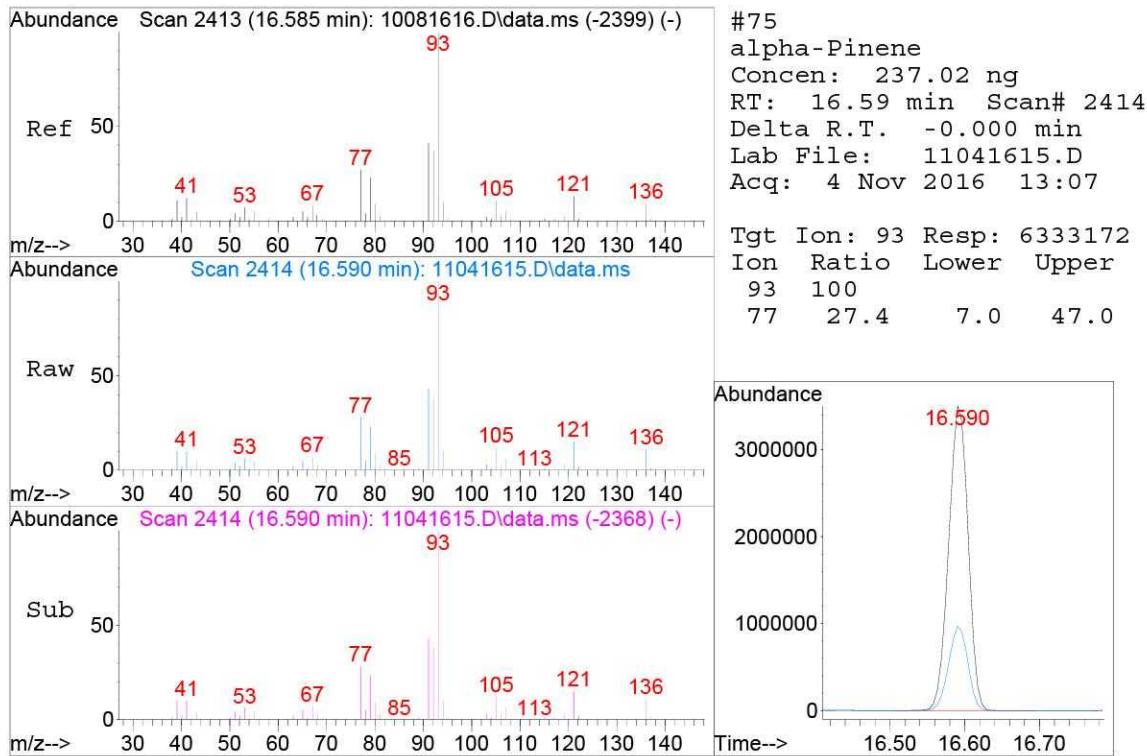
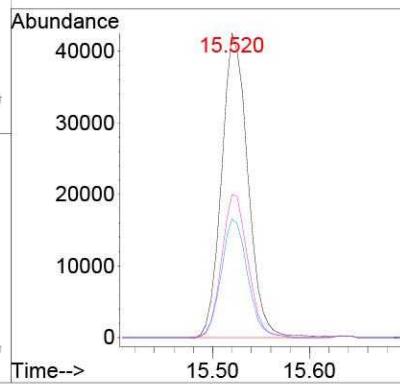
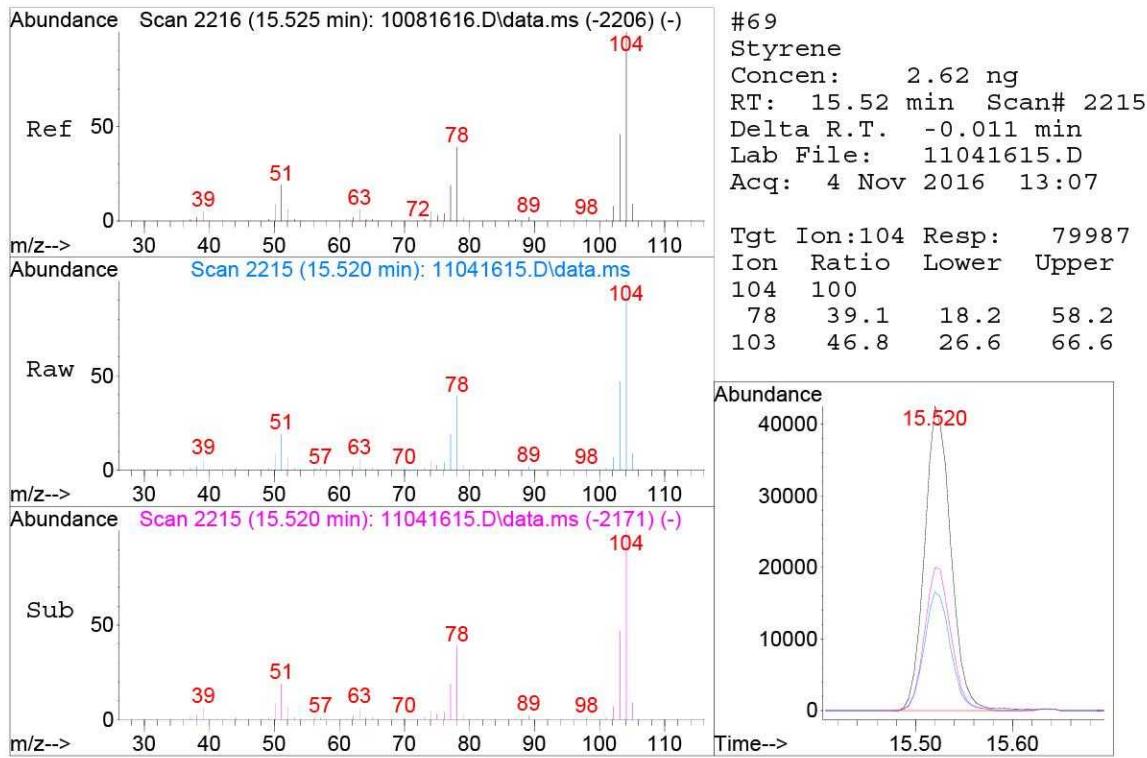












Data File: I:\MS08\Data\2016_11\04\11041616.D
 Acq On : 4 Nov 2016 13:39
 Sample : P1605059-010dil (15mL)
 Misc : S29-10041602
 ALS Vial : 10 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 04 14:09:00 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane (IS1)	8.78	130	112206	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	10.53	114	523274	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.56	82	210757	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.47	65	143204	12.742	ng	-0.03
Spiked Amount	12.500	Range	70 - 130	Recovery	=	101.92%
57) Toluene-d8 (SS2)	12.77	98	531933	12.686	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	101.52%
73) Bromofluorobenzene (SS3)	16.07	174	224087	12.933	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	103.44%

Target Compounds

					Qvalue
2) Propene	3.90	42	3275	N.D.	
3) Dichlorodifluoromethan...	4.00	85	410	N.D.	
4) Chloromethane	0.00	50	0	N.D.	
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.	
6) Vinyl Chloride	0.00	62	0	N.D.	
7) 1,3-Butadiene	0.00	54	0	N.D.	
8) Bromomethane	0.00	94	0	N.D.	
9) Chloroethane	0.00	64	0	N.D.	
10) Ethanol	5.39	45	2727	N.D.	
11) Acetonitrile	0.00	41	0	N.D.	
12) Acrolein	5.87	56	2345	N.D.	
13) Acetone	5.86	58	11362	1.441 ng	# 73
14) Trichlorofluoromethane	0.00	101	0	N.D.	
15) 2-Propanol (Isopropanol)	6.16	45	3887	N.D.	
16) Acrylonitrile	0.00	53	0	N.D.	
17) 1,1-Dichloroethene	6.65	96	318628	35.172 ng	99
18) 2-Methyl-2-Propanol (t...	6.78	59	48	N.D.	
19) Methylene Chloride	6.65	84	2241	N.D.	
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	
21) Trichlorotrifluoroethane	7.07	151	5165	0.544 ng	99
22) Carbon Disulfide	7.05	76	3347	N.D.	
23) trans-1,2-Dichloroethene	7.69	61	1075	N.D.	
24) 1,1-Dichloroethane	7.87	63	40150	2.571 ng	100
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	
26) Vinyl Acetate	0.00	86	0	N.D.	
27) 2-Butanone (MEK)	8.28	72	553	N.D.	
28) cis-1,2-Dichloroethene	8.65	61	605	N.D.	
29) Diisopropyl Ether	0.00	87	0	N.D.	
30) Ethyl Acetate	8.65	61	605	N.D.	
31) n-Hexane	8.85	57	2219	N.D.	
32) Chloroform	8.91	83	3923	N.D.	
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.	
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.	
36) 1,2-Dichloroethane	0.00	62	0	N.D.	
38) 1,1,1-Trichloroethane	9.82	97	41001	2.851 ng	99
39) Isopropyl Acetate	0.00	61	0	N.D.	
40) 1-Butanol	10.17	56	2220	N.D.	
41) Benzene	10.23	78	6458	N.D.	
42) Carbon Tetrachloride	0.00	117	0	N.D.	
43) Cyclohexane	10.48	84	1180	N.D.	
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.	
45) 1,2-Dichloropropane	0.00	63	0	N.D.	
46) Bromodichloromethane	0.00	83	0	N.D.	
47) Trichloroethene	11.17	130	23676	1.764 ng	99
48) 1,4-Dioxane	0.00	88	0	N.D.	
49) 2,2,4-Trimethylpentane...	11.22	57	187 2177 24288	N.D.	

Data File: I:\MS08\Data\2016_11\04\11041616.D
 Acq On : 4 Nov 2016 13:39
 Sample : P1605059-010dil (15mL)
 Misc : S29-10041602
 ALS Vial : 10 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 04 14:09:00 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	0.00	100	0	N.D.		
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.86	91	10690	N.D.		
59) 2-Hexanone	13.04	43	599	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.53	43	8692	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	13.94	166	450735	33.826	ng	99
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	14.99	91	12135	N.D.		
67) m- & p-Xylenes	15.16	91	12158	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	15.53	104	27386	0.969	ng	99
70) o-Xylene	15.64	91	1599	N.D.		
71) n-Nonane	15.84	43	457	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	16.21	105	4696	N.D.		
75) alpha-Pinene	16.59	93	2387695	96.421	ng	100
76) n-Propylbenzene	16.70	91	2880	N.D.		
77) 3-Ethyltoluene	16.79	105	1992	N.D.		
78) 4-Ethyltoluene	16.84	105	3612	N.D.		
79) 1,3,5-Trimethylbenzene	16.84	105	3612	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.10	105	500	N.D.		
82) 1,2,4-Trimethylbenzene	17.31	105	1327	N.D.		
83) n-Decane	17.40	57	719	N.D.		
84) Benzyl Chloride	17.53	91	1052	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D.		
88) 4-Isopropyltoluene (p-...)	17.71	119	2625	N.D.		
89) 1,2,3-Trimethylbenzene	17.88	105	714	N.D.		
90) 1,2-Dichlorobenzene	17.84	146	583	N.D.		
91) d-Limonene	17.85	68	3286	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	18.61	57	411	N.D.		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	0.00	128	0	N.D.		
96) n-Dodecane	19.50	57	642	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	0.00	119	0	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D.		

(#= qualifier out of range (m)= manual integration (+)= signals summed

Data File: I:\MS08\Data\2016_11\04\11041616.D
Acq On : 4 Nov 2016 13:39
Sample : P1605059-010dil (15mL)
Misc : S29-10041602
ALS Vial : 10 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 04 14:09:00 2016

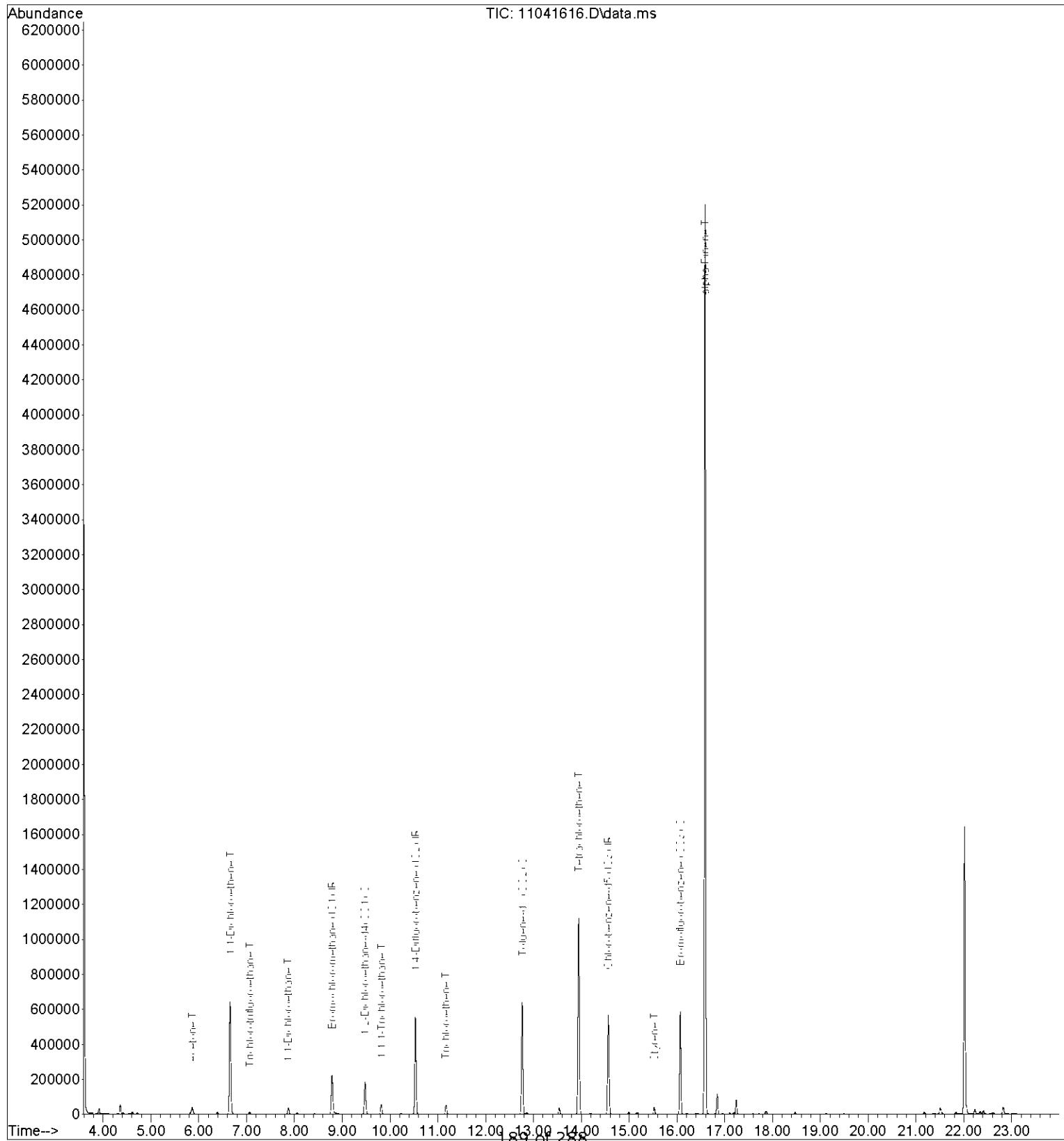
Quant Method : I:\MS08\Methods\R8100816.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Wed Oct 12 15:54:53 2016

Response via : Initial Calibration

DataAcq Meth:TO15.M

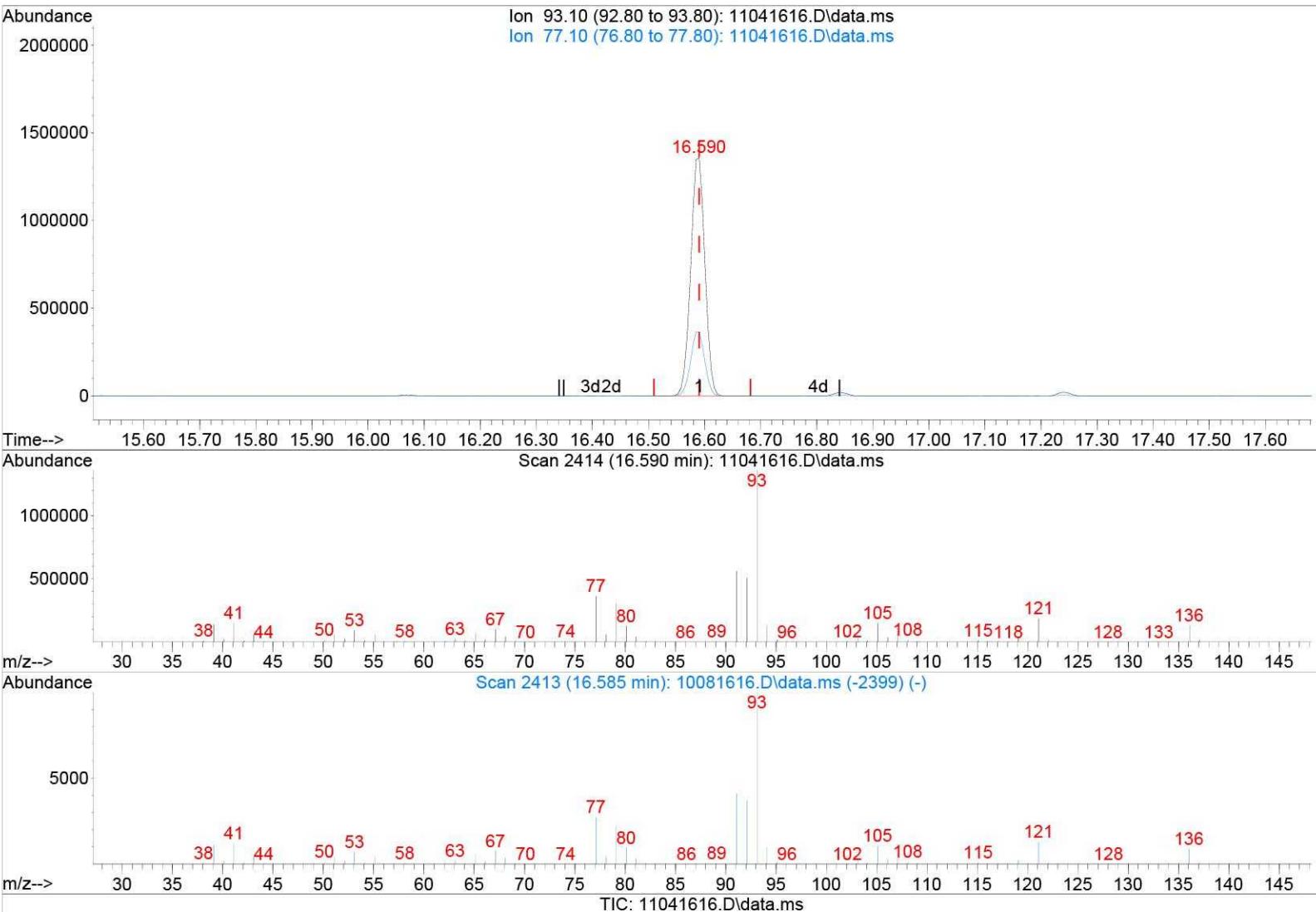


Quantitation Report (Qedit)

Data File: I:\MS08\Data\2016_11\04\11041616.D
 Acq On : 4 Nov 2016 13:39
 Sample : P1605059-010dil (15mL)
 Misc : S29-10041602
 ALS Vial : 10 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 04 14:09:00 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M



(75) alpha-Pinene (T)

16.590min (-0.000) 96.42ng

response 2387695

Ion	Exp%	Act%
93.10	100	100
77.10	27.00	26.87
0.00	0.00	0.00
0.00	0.00	0.00

Data File: I:\MS08\Data\2016_11\04\11041618.D
 Acq On : 4 Nov 2016 14:44
 Sample : P1605059-011 (400mL)
 Misc : S29-10041602
 ALS Vial : 11 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 07 15:12:05 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane (IS1)	8.78	130	119240	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	10.53	114	551954	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	14.57	82	227199	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.48	65	151493	12.685	ng	-0.02
Spiked Amount	12.500	Range	70 - 130	Recovery	=	101.44%
57) Toluene-d8 (SS2)	12.77	98	574141	12.701	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	101.60%
73) Bromofluorobenzene (SS3)	16.07	174	221856	11.878	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	95.04%

Target Compounds

						Qvalue
2) Propene	0.00	42	0	N.D.	d	
3) Dichlorodifluoromethan...	0.00	85	0	N.D.	d	
4) Chloromethane	0.00	50	0	N.D.	d	
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	866	N.D.		
6) Vinyl Chloride	4.50	62	4423	N.D.		
7) 1,3-Butadiene	4.65	54	568	N.D.		
8) Bromomethane	0.00	94	0	N.D.	d	
9) Chloroethane	0.00	64	0	N.D.	d	
10) Ethanol	5.36	45	24139	3.204	ng	91
11) Acetonitrile	5.60	41	3178	N.D.		
12) Acrolein	0.00	56	0	N.D.	d	
13) Acetone	5.86	58	64379m	7.681	ng	
14) Trichlorofluoromethane	6.02	101	9245	0.568	ng	# 49
15) 2-Propanol (Isopropanol)	6.12	45	61092	2.624	ng	98
16) Acrylonitrile	6.50	53	421	N.D.		
17) 1,1-Dichloroethene	6.67	96	6485	0.674	ng	97
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d	
19) Methylene Chloride	0.00	84	0	N.D.		
20) 3-Chloro-1-propene (Al...	6.84	41	671	N.D.		
21) Trichlorotrifluoroethane	7.07	151	1102	N.D.		
22) Carbon Disulfide	7.05	76	37152	1.000	ng	98
23) trans-1,2-Dichloroethene	7.89	61	1373	N.D.		
24) 1,1-Dichloroethane	7.88	63	953	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	8.02	86	2229	0.806	ng	# 50
27) 2-Butanone (MEK)	8.25	72	8361	1.286	ng	99
28) cis-1,2-Dichloroethene	8.65	61	1982	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	8.85	61	2430	0.721	ng	95
31) n-Hexane	8.85	57	3589	N.D.		
32) Chloroform	8.90	83	2982	N.D.		
34) Tetrahydrofuran (THF)	9.28	72	3768	0.535	ng	92
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	9.82	97	1662	N.D.		
39) Isopropyl Acetate	10.13	61	548	N.D.		
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	10.23	78	5559	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	10.48	84	1669	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	11.17	83	427	N.D.		
47) Trichloroethene	11.17	130	47664	3.366	ng	97
48) 1,4-Dioxane	11.16	88	572	N.D.		
49) 2,2,4-Trimethylpentane...	11.22	57	19159288	N.D.		

Data File: I:\MS08\Data\2016_11\04\11041618.D
 Acq On : 4 Nov 2016 14:44
 Sample : P1605059-011 (400mL)
 Misc : S29-10041602
 ALS Vial : 11 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 07 15:12:05 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	11.28	100	1088		N.D.	
51) n-Heptane	11.44	71	1474		N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0		N.D.	
53) 4-Methyl-2-pentanone	11.97	58	1018		N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0		N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0		N.D.	
58) Toluene	12.86	91	9884		N.D.	
59) 2-Hexanone	13.09	43	1864		N.D.	
60) Dibromochloromethane	0.00	129	0		N.D.	
61) 1,2-Dibromoethane	0.00	107	0		N.D.	
62) n-Butyl Acetate	13.79	43	1855		N.D.	
63) n-Octane	13.79	57	675		N.D.	
64) Tetrachloroethene	13.94	166	478357	33.301	ng	99
65) Chlorobenzene	0.00	112	0		N.D.	
66) Ethylbenzene	14.99	91	1687		N.D.	
67) m- & p-Xylenes	15.17	91	1527		N.D.	
68) Bromoform	0.00	173	0		N.D.	
69) Styrene	0.00	104	0		N.D.	
70) o-Xylene	0.00	91	0		N.D.	
71) n-Nonane	15.84	43	488		N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0		N.D.	
74) Cumene	0.00	105	0		N.D.	
75) alpha-Pinene	16.59	93	35635	1.335	ng	98
76) n-Propylbenzene	16.59	91	14530		N.D.	
77) 3-Ethyltoluene	16.84	105	782		N.D.	
78) 4-Ethyltoluene	16.84	105	782		N.D.	
79) 1,3,5-Trimethylbenzene	16.84	105	782		N.D.	
80) alpha-Methylstyrene	0.00	118	0		N.D.	
81) 2-Ethyltoluene	0.00	105	0		N.D.	
82) 1,2,4-Trimethylbenzene	0.00	105	0		N.D.	
83) n-Decane	0.00	57	0		N.D.	d
84) Benzyl Chloride	0.00	91	0		N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0		N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0		N.D.	
87) sec-Butylbenzene	0.00	105	0		N.D.	
88) 4-Isopropyltoluene (p-...)	17.71	119	1991		N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0		N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0		N.D.	
91) d-Limonene	17.85	68	1774		N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0		N.D.	
93) n-Undecane	18.60	57	4554		N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0		N.D.	
95) Naphthalene	0.00	128	0		N.D.	
96) n-Dodecane	19.58	57	1202		N.D.	
97) Hexachlorobutadiene	0.00	225	0		N.D.	
98) Cyclohexanone	0.00	55	0		N.D.	
99) tert-Butylbenzene	0.00	119	0		N.D.	
100) n-Butylbenzene	0.00	91	0		N.D.	

(#= qualifier out of range (m)= manual integration (+)= signals summed

Data File: I:\MS08\Data\2016_11\04\11041618.D
Acq On : 4 Nov 2016 14:44
Sample : P1605059-011 (400mL)
Misc : S29-10041602
ALS Vial : 11 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 07 15:12:05 2016

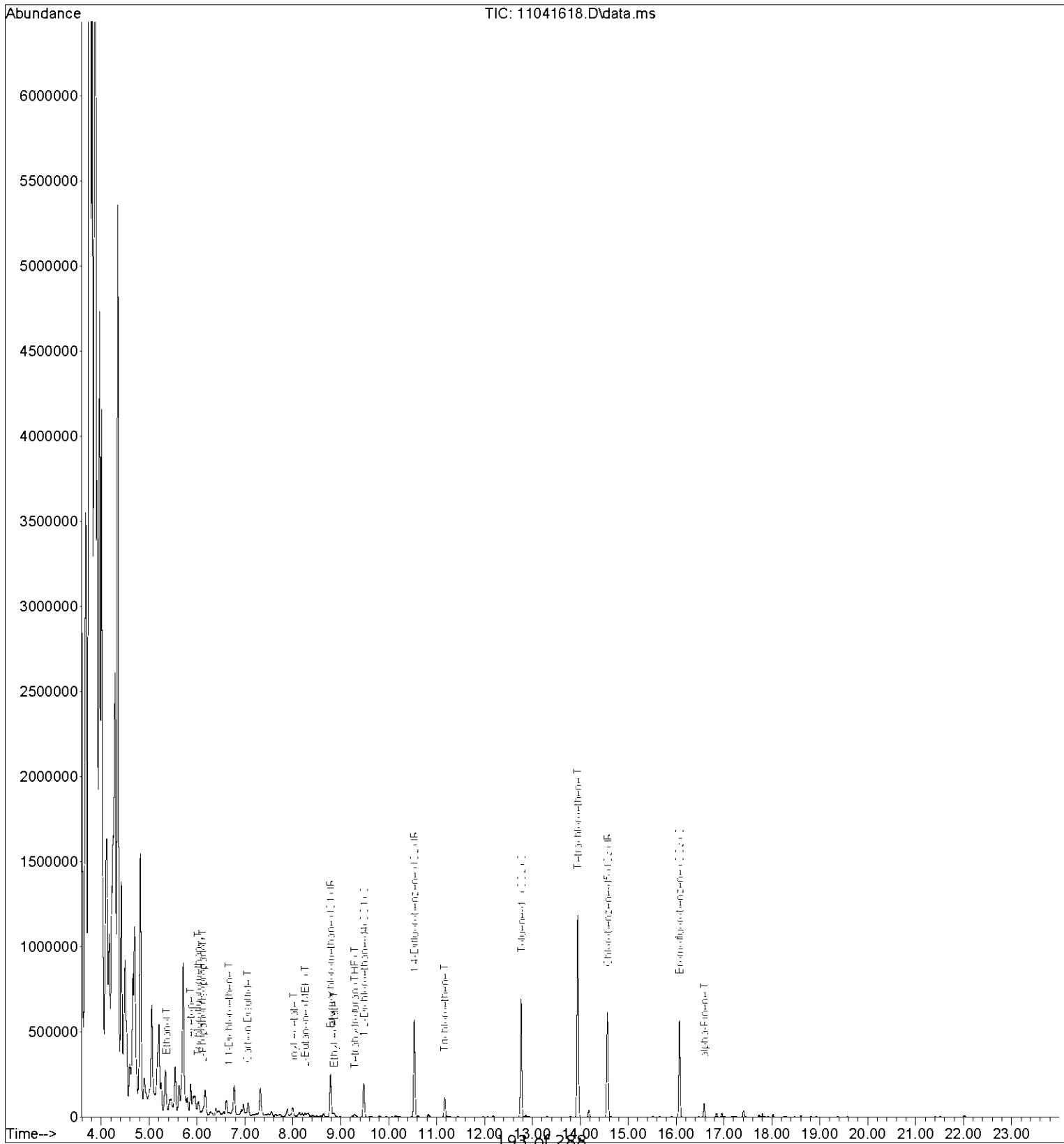
Quant Method : I:\MS08\Methods\R8100816.M

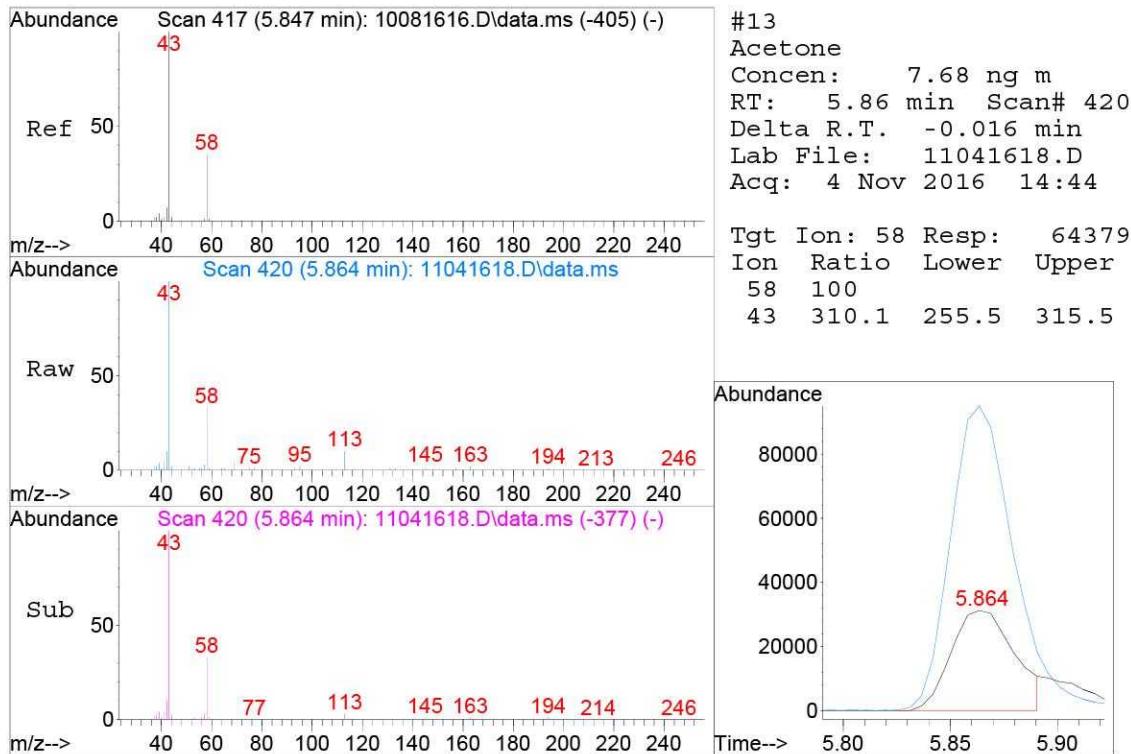
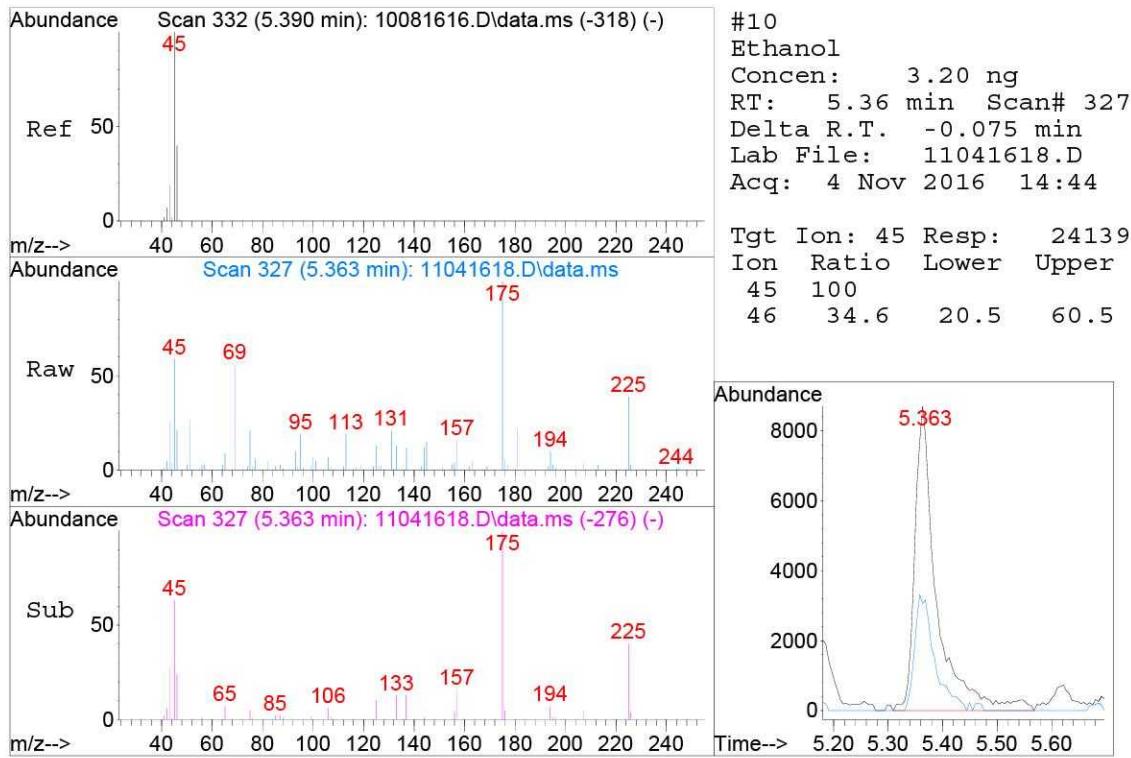
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

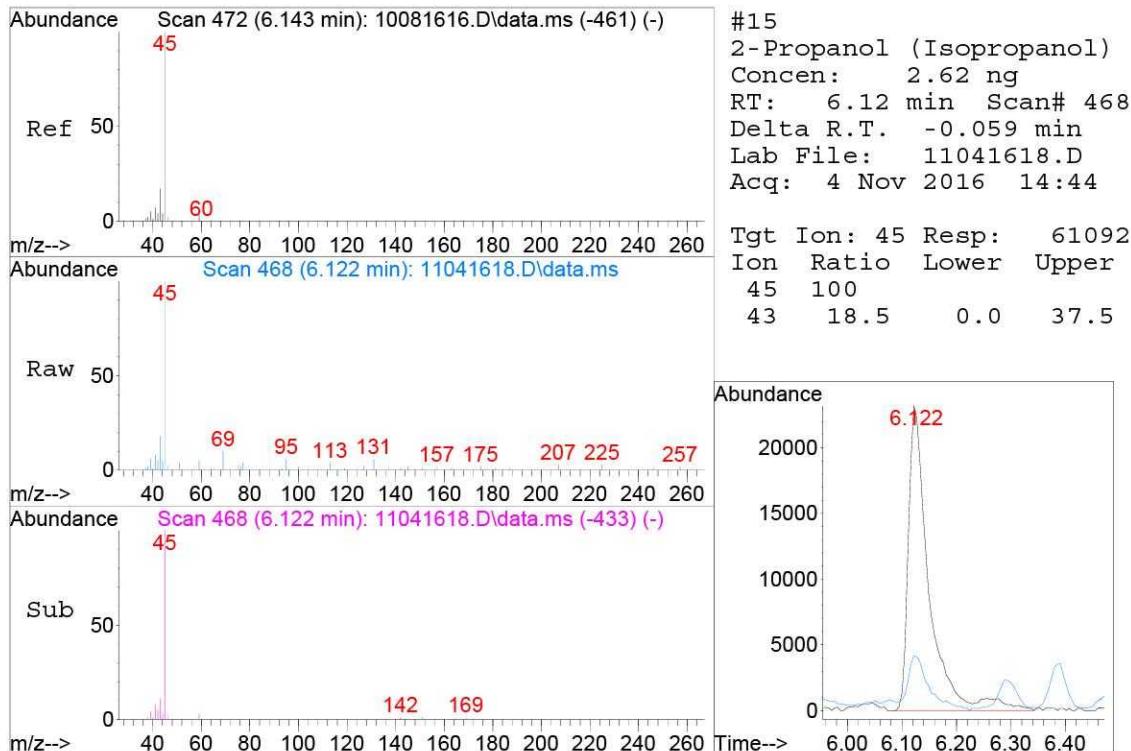
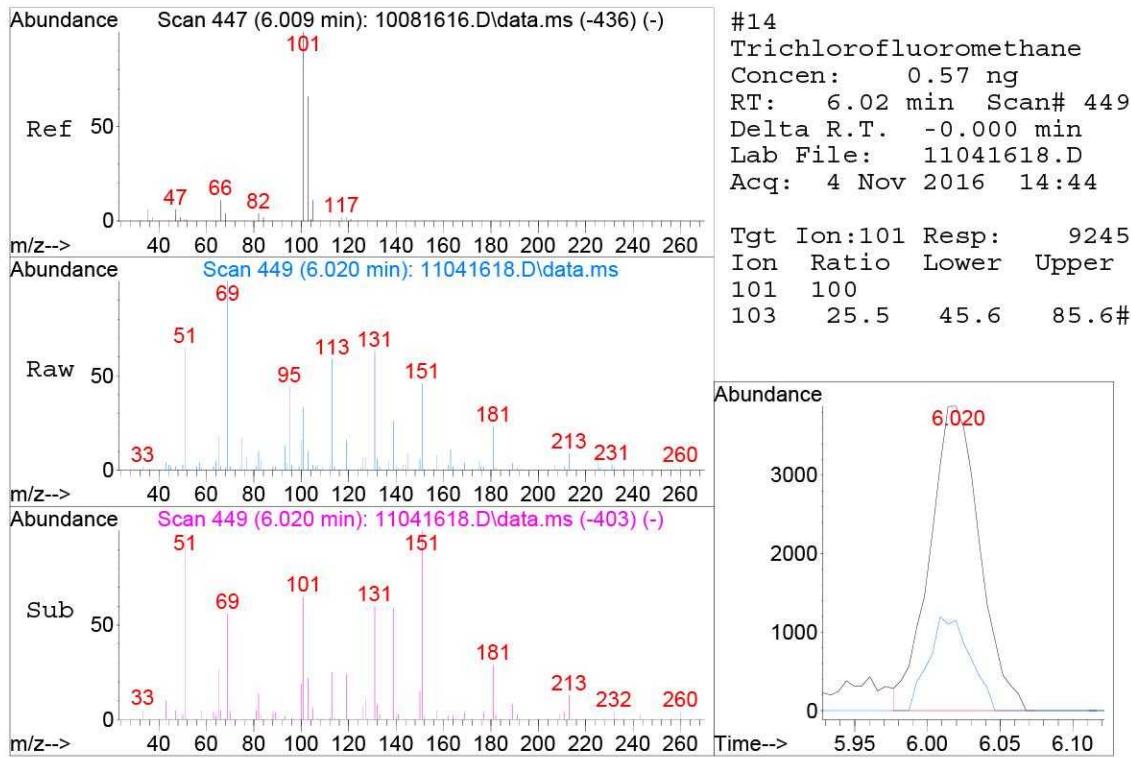
QLast Update : Wed Oct 12 15:54:53 2016

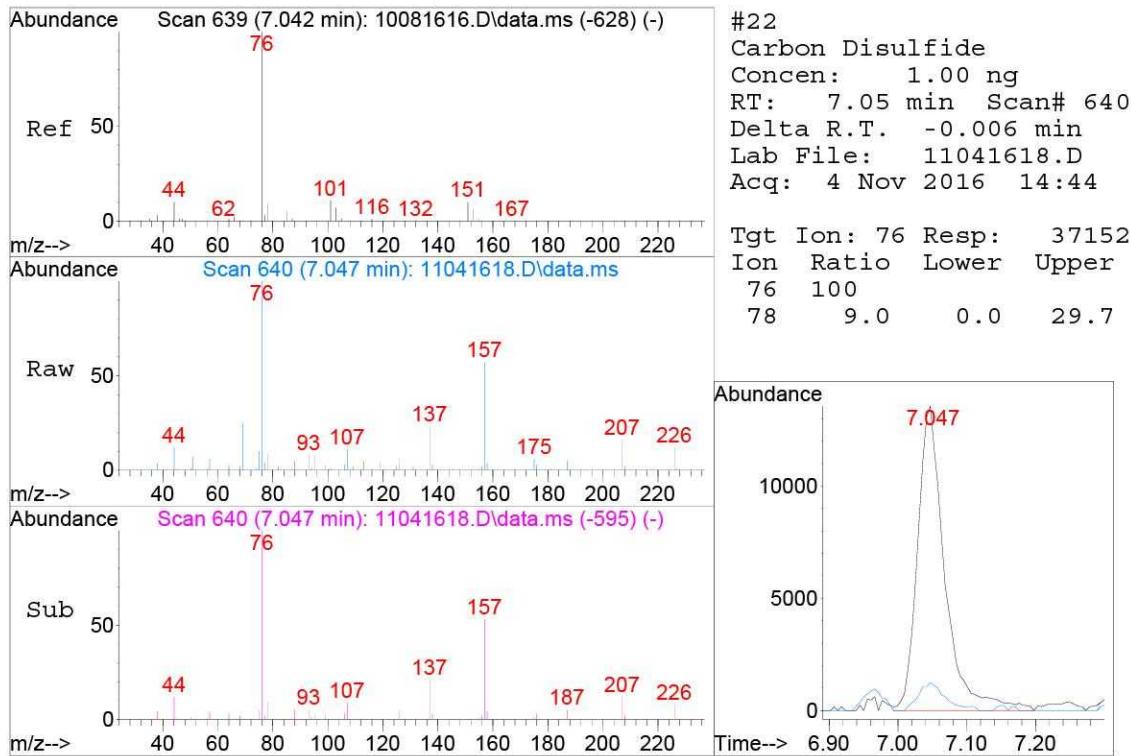
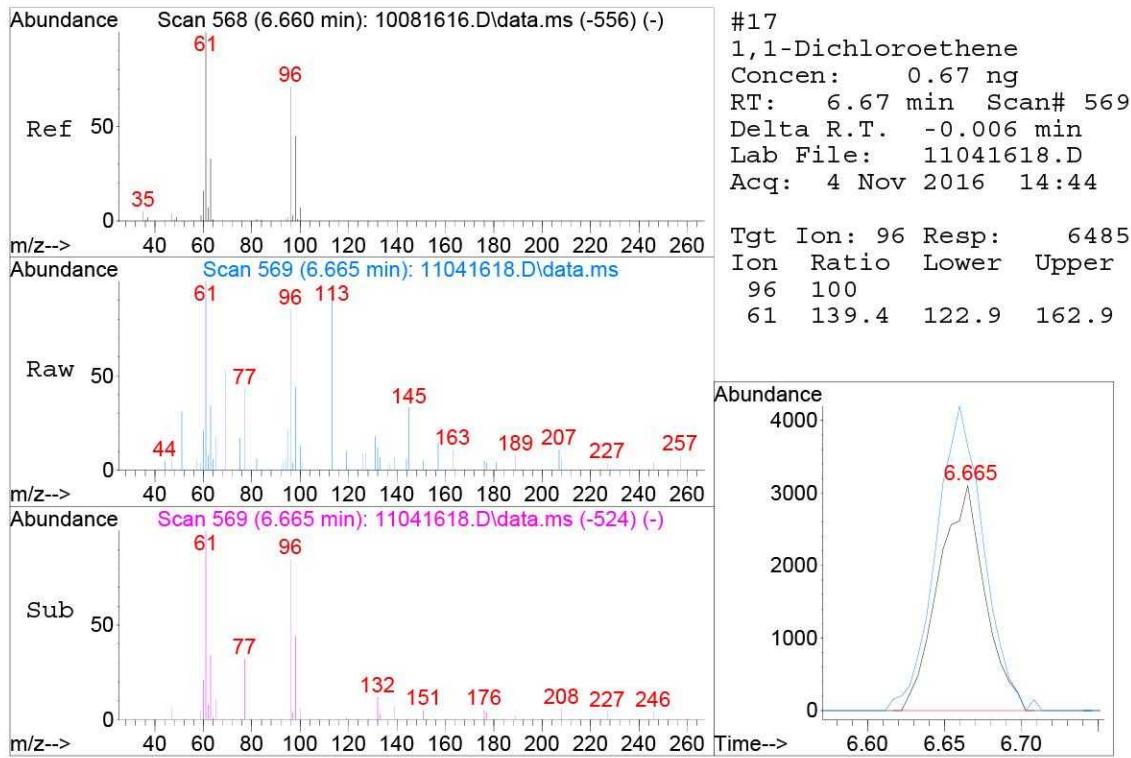
Response via : Initial Calibration

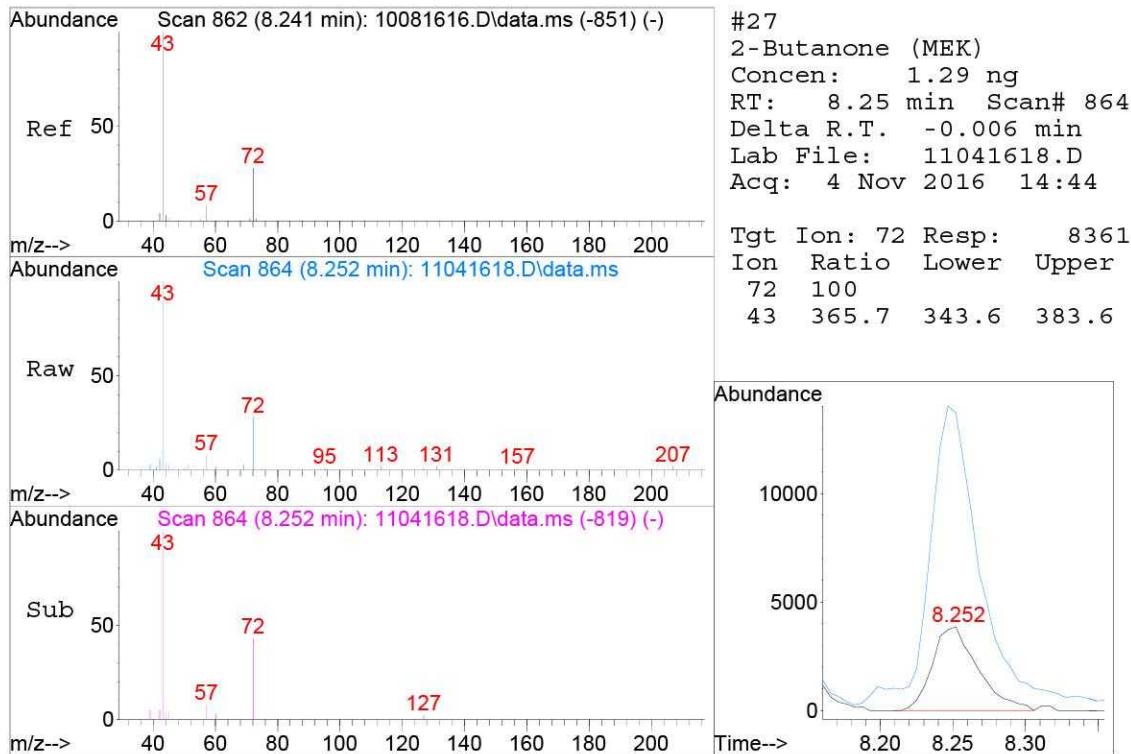
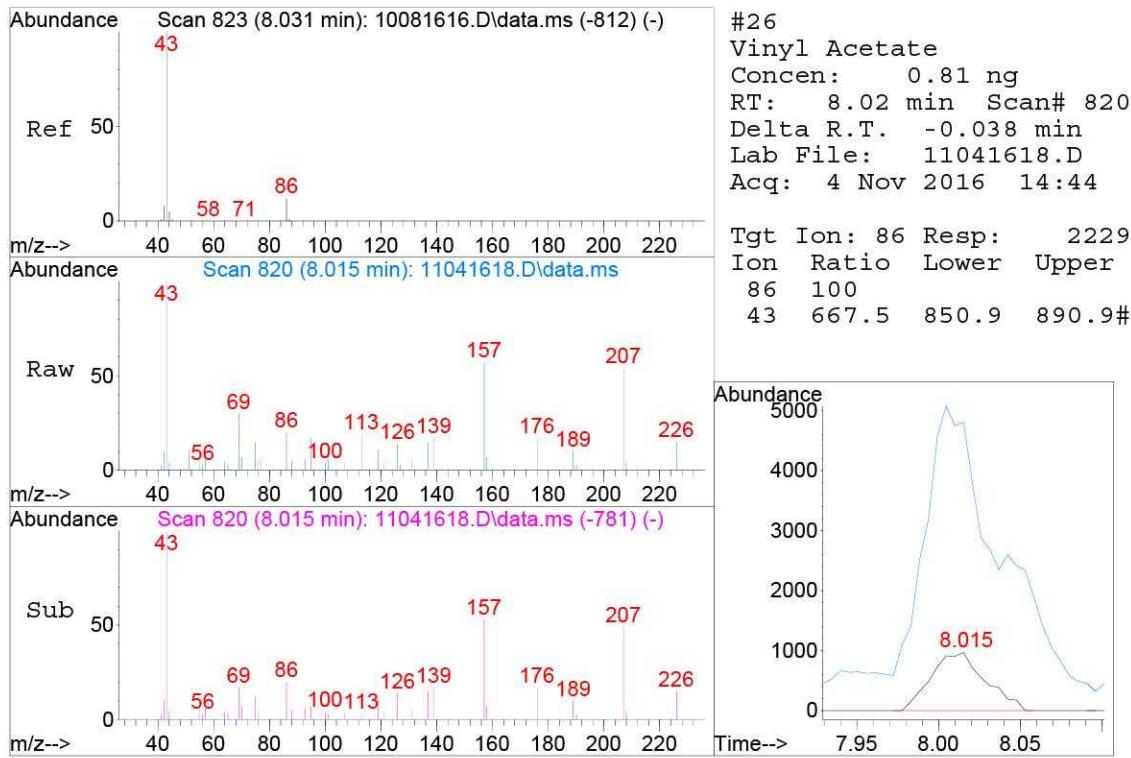
DataAcq Meth:TO15.M

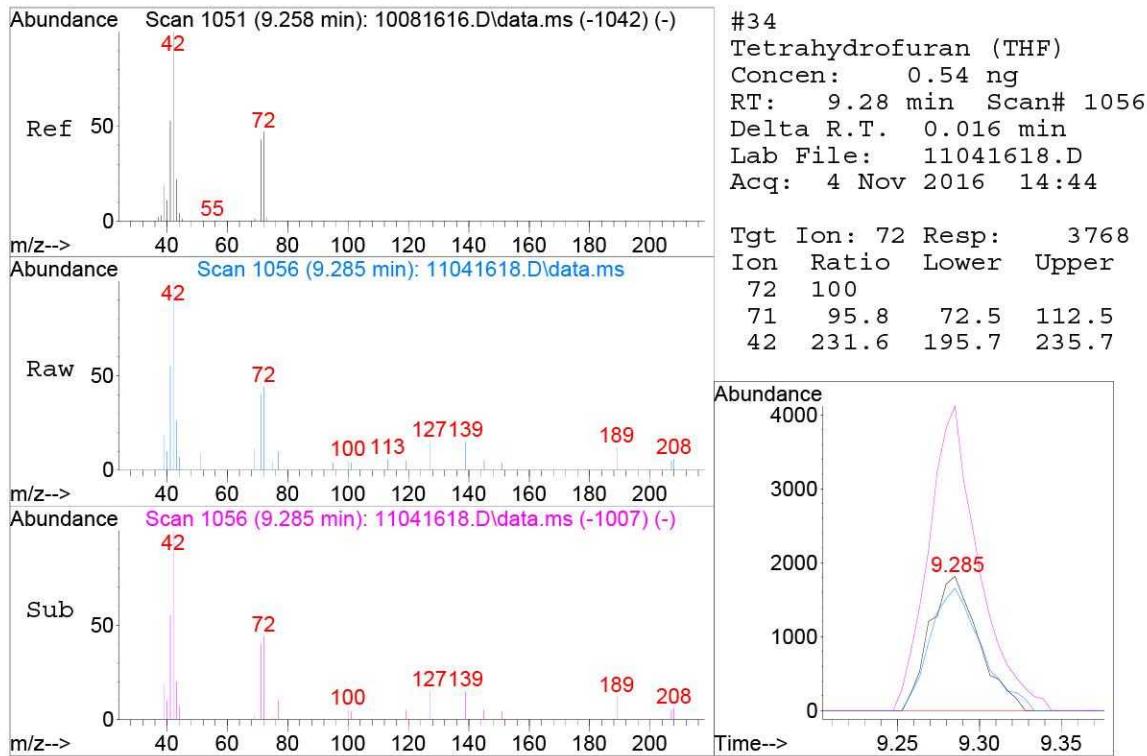
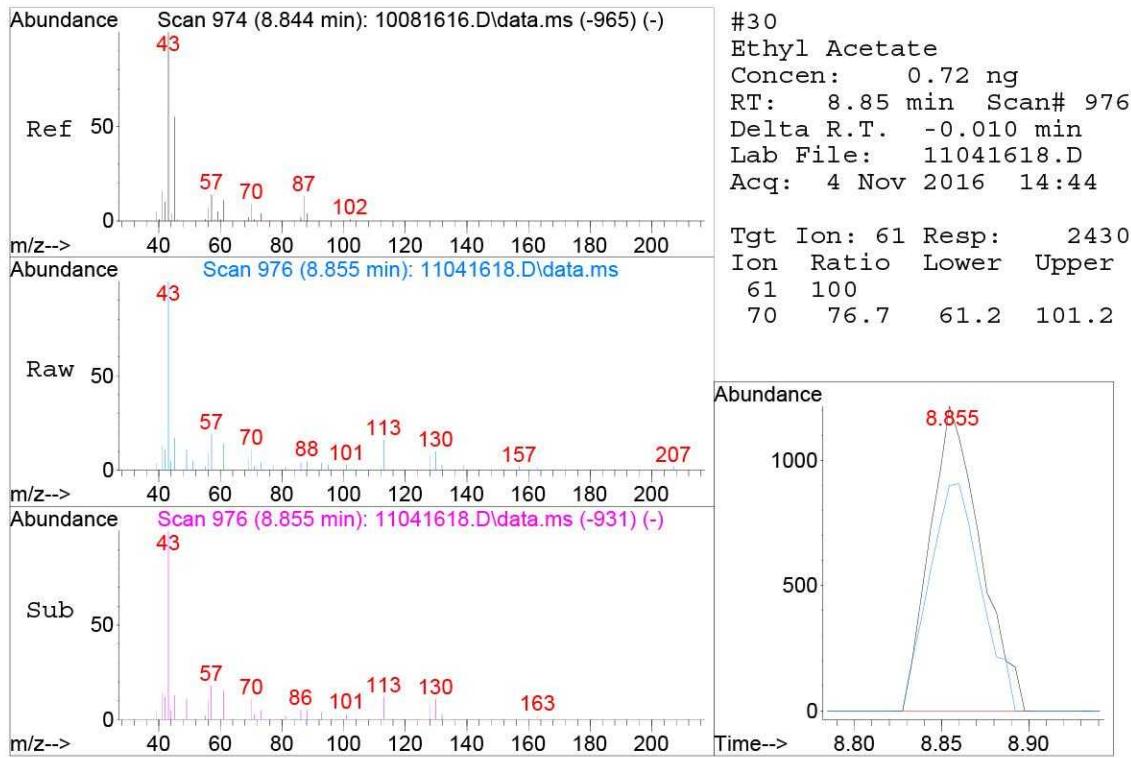


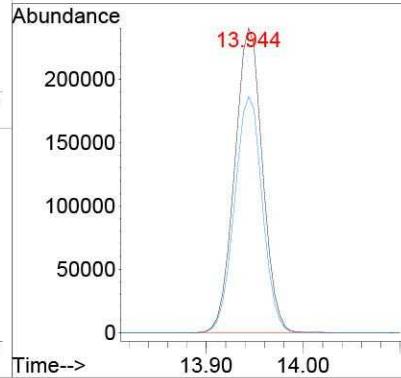
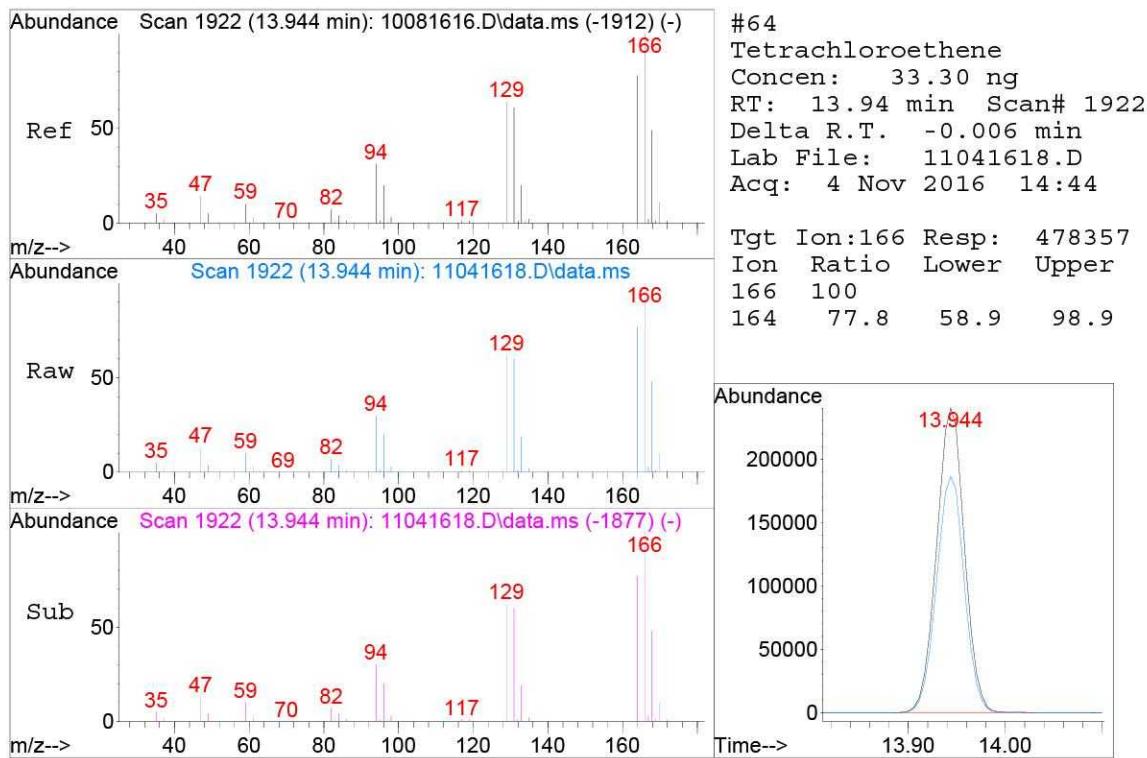
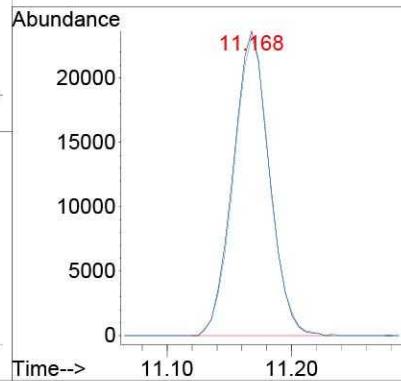
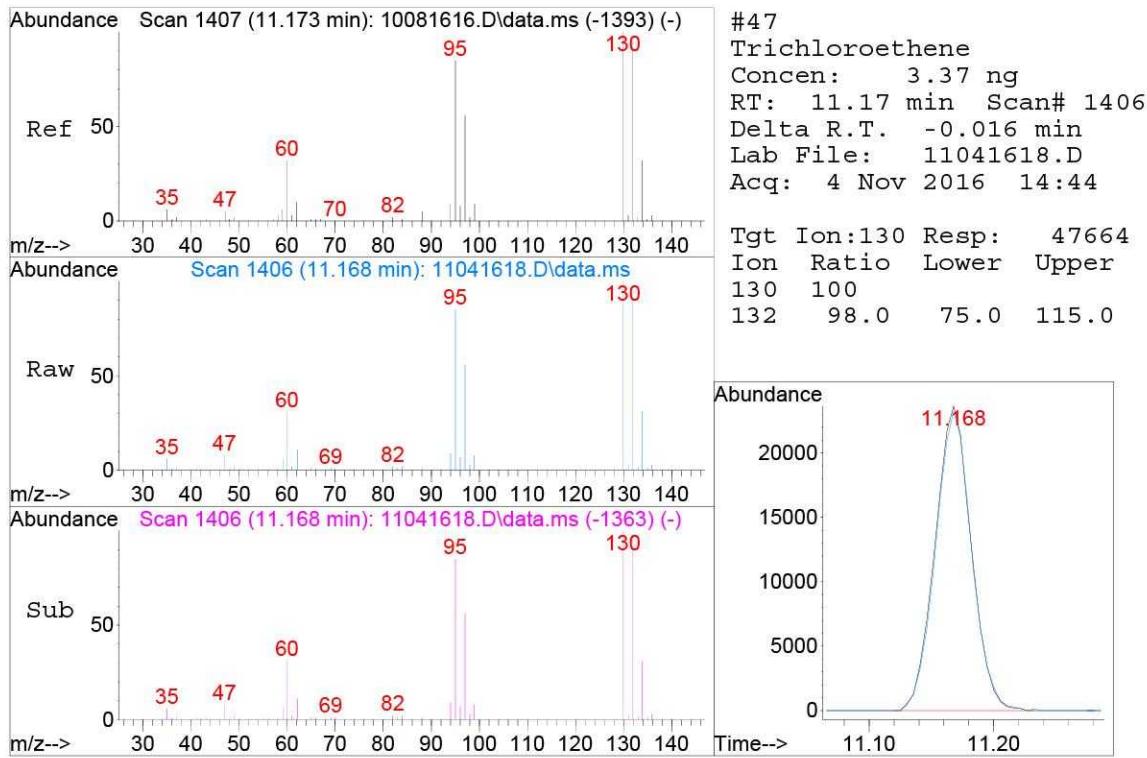


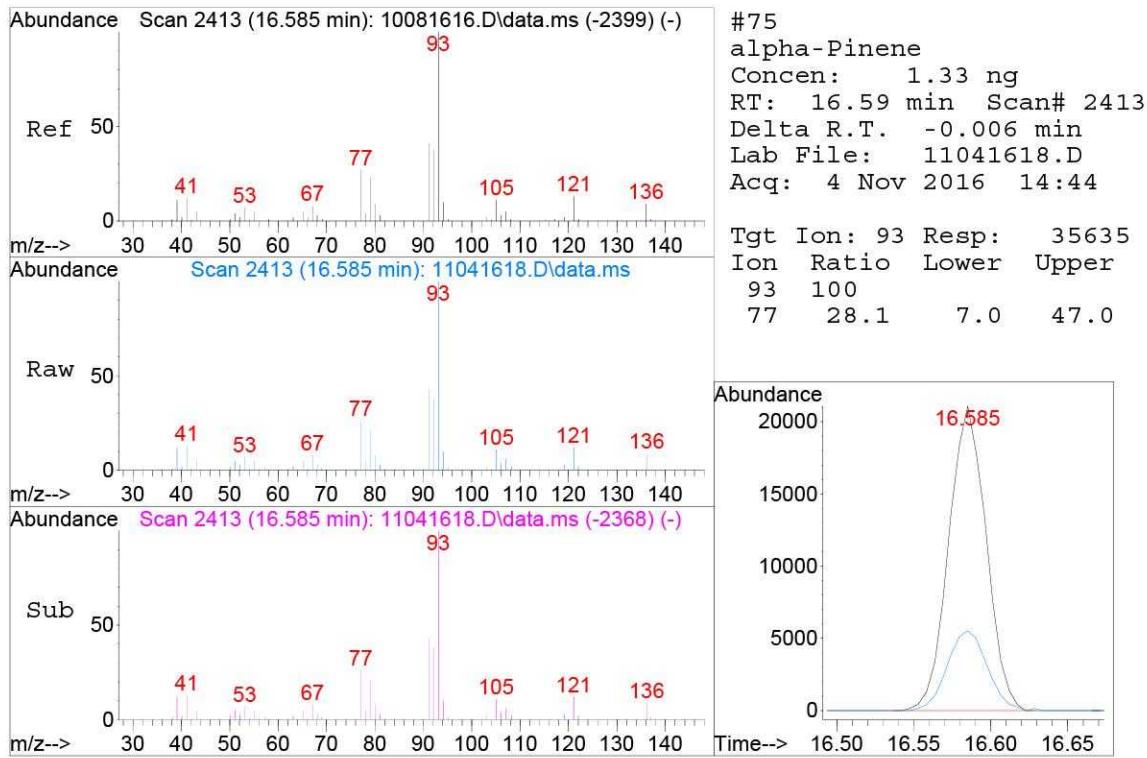








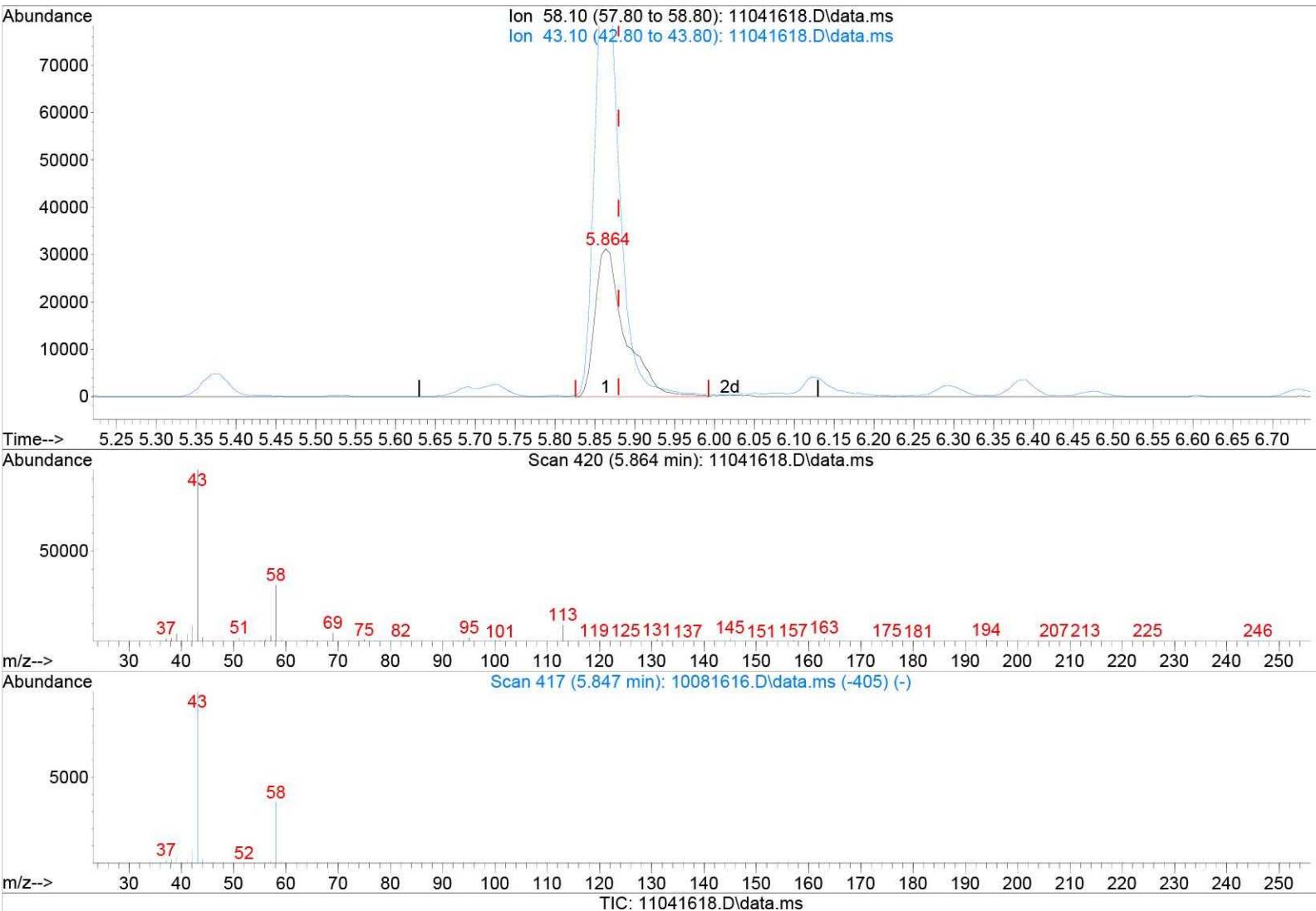




Data File: I:\MS08\Data\2016_11\04\11041618.D
 Acq On : 4 Nov 2016 14:44
 Sample : P1605059-011 (400mL)
 Misc : S29-10041602
 ALS Vial : 11 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 04 14:09:58 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M



(13) Acetone (T)

5.864min (-0.016) 9.66ng

response 80986

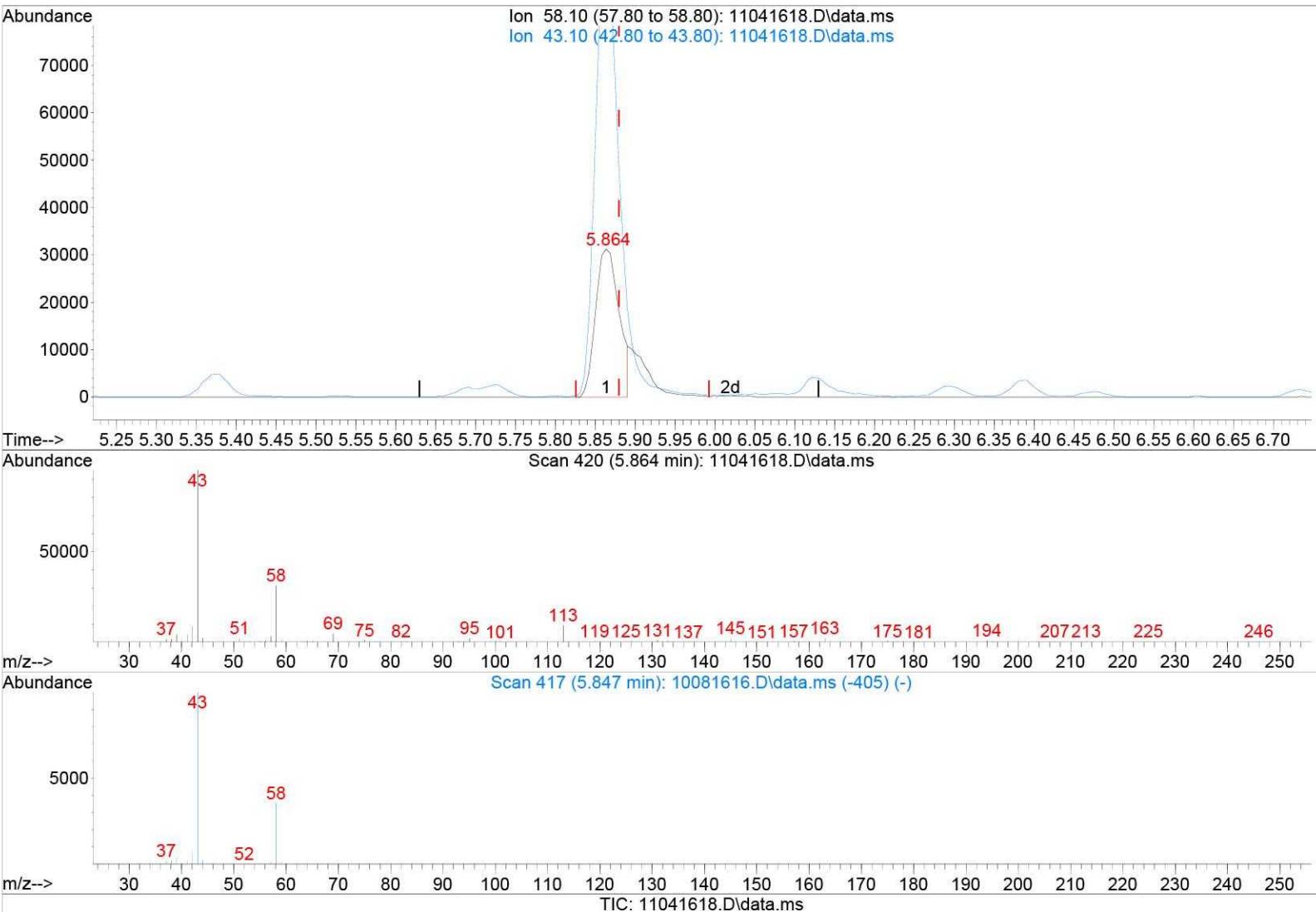
Ion	Exp%	Act%
58.10	100	100
43.10	285.50	246.50#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File: I:\MS08\Data\2016_11\04\11041618.D
 Acq On : 4 Nov 2016 14:44
 Sample : P1605059-011 (400mL)
 Misc : S29-10041602
 ALS Vial : 11 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 04 14:09:58 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M



(13) Acetone (T)

5.864min (-0.016) 7.68ng m

response 64379

Ion	Exp%	Act%
58.10	100	100
43.10	285.50	310.09
0.00	0.00	0.00
0.00	0.00	0.00

Data File: I:\MS08\Data\2016_11\04\11041619.D
 Acq On : 4 Nov 2016 15:22
 Sample : P1605059-012 (25mL)
 Misc : S29-10041602
 ALS Vial : 12 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 07 15:13:10 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane (IS1)	8.78	130	120607	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	10.53	114	552431	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	14.57	82	206620	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.47	65	151287	12.524	ng	-0.03
Spiked Amount	12.500	Range	70 - 130	Recovery	=	100.16%
57) Toluene-d8 (SS2)	12.77	98	520430	12.660	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	101.28%
73) Bromofluorobenzene (SS3)	16.07	174	208895	12.298	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	98.40%

Target Compounds

					Qvalue
2) Propene	3.91	42	3030	N.D.	
3) Dichlorodifluoromethan...	4.00	85	748	N.D.	
4) Chloromethane	0.00	50	0	N.D.	
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.	
6) Vinyl Chloride	0.00	62	0	N.D.	
7) 1,3-Butadiene	0.00	54	0	N.D.	
8) Bromomethane	0.00	94	0	N.D.	
9) Chloroethane	0.00	64	0	N.D.	
10) Ethanol	5.40	45	1250	N.D.	
11) Acetonitrile	0.00	41	0	N.D.	
12) Acrolein	5.74	56	57	N.D.	
13) Acetone	5.85	58	13649	1.610 ng	# 83
14) Trichlorofluoromethane	0.00	101	0	N.D.	
15) 2-Propanol (Isopropanol)	6.15	45	10531	N.D.	
16) Acrylonitrile	6.50	53	382	N.D.	
17) 1,1-Dichloroethene	6.66	96	1760	N.D.	
18) 2-Methyl-2-Propanol (t...	6.77	59	2014	N.D.	
19) Methylene Chloride	0.00	84	0	N.D.	
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	
21) Trichlorotrifluoroethane	0.00	151	0	N.D.	
22) Carbon Disulfide	7.05	76	7468	N.D.	
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.	
24) 1,1-Dichloroethane	0.00	63	0	N.D.	
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	
26) Vinyl Acetate	0.00	86	0	N.D.	
27) 2-Butanone (MEK)	8.27	72	1538	N.D.	
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.	
29) Diisopropyl Ether	0.00	87	0	N.D.	
30) Ethyl Acetate	0.00	61	0	N.D.	
31) n-Hexane	8.85	57	909	N.D.	
32) Chloroform	0.00	83	0	N.D.	
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.	
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.	
36) 1,2-Dichloroethane	0.00	62	0	N.D.	
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.	
39) Isopropyl Acetate	0.00	61	0	N.D.	
40) 1-Butanol	0.00	56	0	N.D.	
41) Benzene	10.23	78	3762	N.D.	
42) Carbon Tetrachloride	0.00	117	0	N.D.	
43) Cyclohexane	0.00	84	0	N.D.	
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.	
45) 1,2-Dichloropropane	0.00	63	0	N.D.	
46) Bromodichloromethane	0.00	83	0	N.D.	
47) Trichloroethene	11.17	130	5124	N.D.	
48) 1,4-Dioxane	0.00	88	0	N.D.	
49) 2,2,4-Trimethylpentane...	11.23	57	552	203 of 288	N.D.

Data File: I:\MS08\Data\2016_11\04\11041619.D
 Acq On : 4 Nov 2016 15:22
 Sample : P1605059-012 (25mL)
 Misc : S29-10041602
 ALS Vial : 12 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 07 15:13:10 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

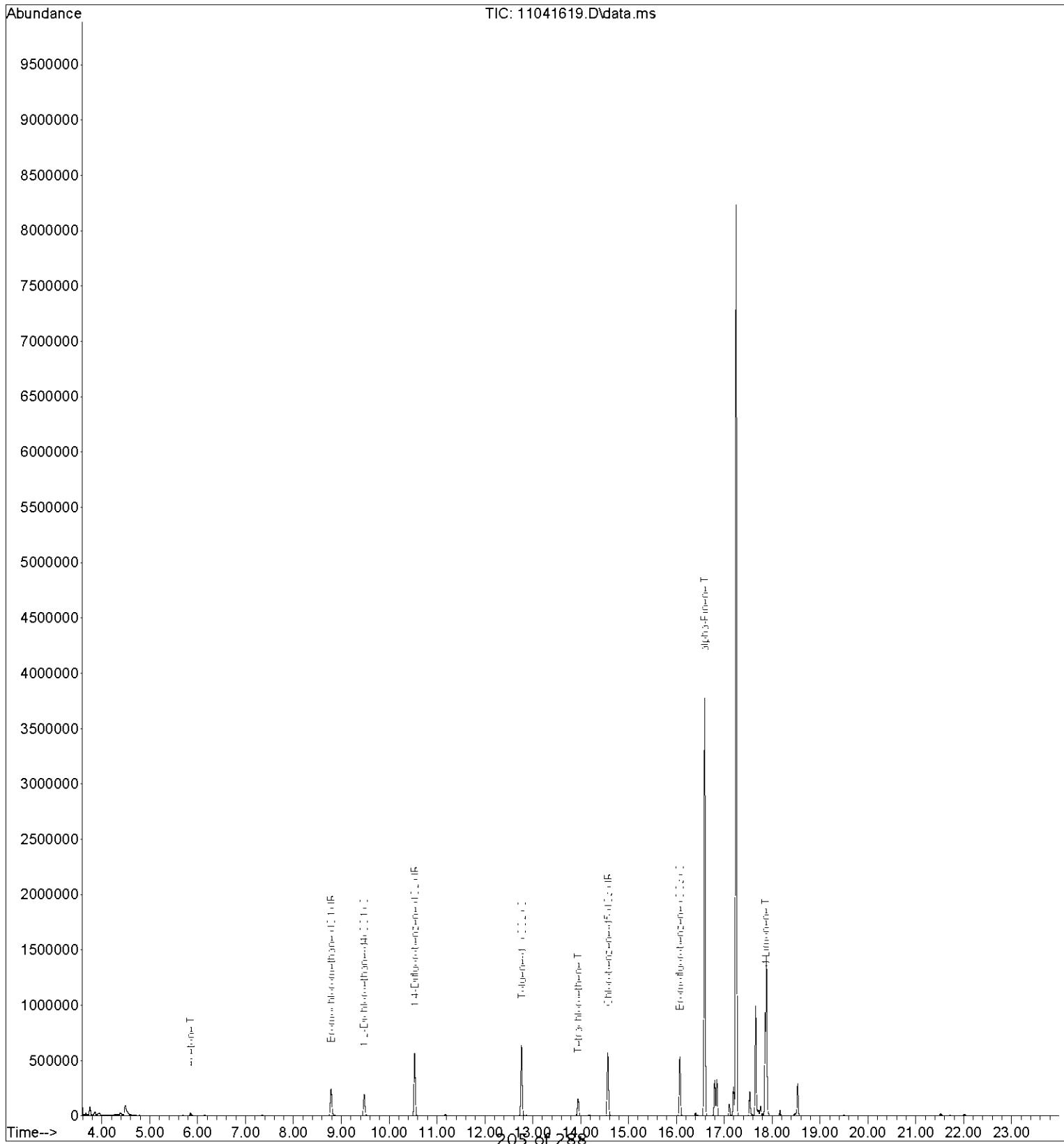
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
50) Methyl Methacrylate	0.00	100	0	N.D.		
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.86	91	5197	N.D.		
59) 2-Hexanone	0.00	43	0	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.79	43	741	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	13.95	166	65435	5.009	ng	100
65) Chlorobenzene	14.61	112	522	N.D.		
66) Ethylbenzene	15.00	91	928	N.D.		
67) m- & p-Xylenes	15.17	91	998	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	15.55	104	548	N.D.		
70) o-Xylene	15.64	91	1099	N.D.		
71) n-Nonane	15.85	43	627	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	16.40	105	720	N.D.		
75) alpha-Pinene	16.59	93	1718865	70.802	ng	99
76) n-Propylbenzene	16.70	91	1021	N.D.		
77) 3-Ethyltoluene	16.80	105	7566	N.D.		
78) 4-Ethyltoluene	16.84	105	7728	N.D.		
79) 1,3,5-Trimethylbenzene	16.84	105	7728	N.D.		
80) alpha-Methylstyrene	17.25	118	1810	N.D.		
81) 2-Ethyltoluene	17.11	105	1538	N.D.		
82) 1,2,4-Trimethylbenzene	17.32	105	797	N.D.		
83) n-Decane	17.40	57	1058	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D. d		
85) 1,3-Dichlorobenzene	17.46	146	632	N.D.		
86) 1,4-Dichlorobenzene	17.52	146	841	N.D.		
87) sec-Butylbenzene	17.53	105	3566	N.D.		
88) 4-Isopropyltoluene (p-...)	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	17.76	105	4101	N.D.		
90) 1,2-Dichlorobenzene	17.85	146	466	N.D.		
91) d-Limonene	17.85	68	213601	14.856	ng	# 1
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	18.61	57	469	N.D.		
94) 1,2,4-Trichlorobenzene	19.47	180	491	N.D.		
95) Naphthalene	19.58	128	1505	N.D.		
96) n-Dodecane	19.58	57	507	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	15.50	55	471	N.D.		
99) tert-Butylbenzene	17.53	119	2645	N.D.		
100) n-Butylbenzene	18.12	91	467	N.D.		

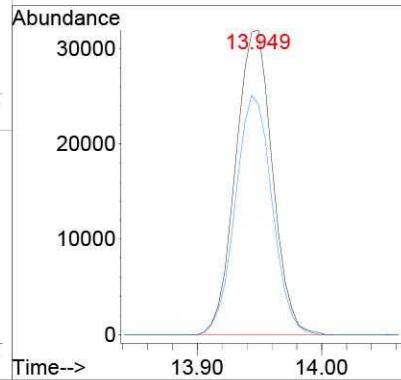
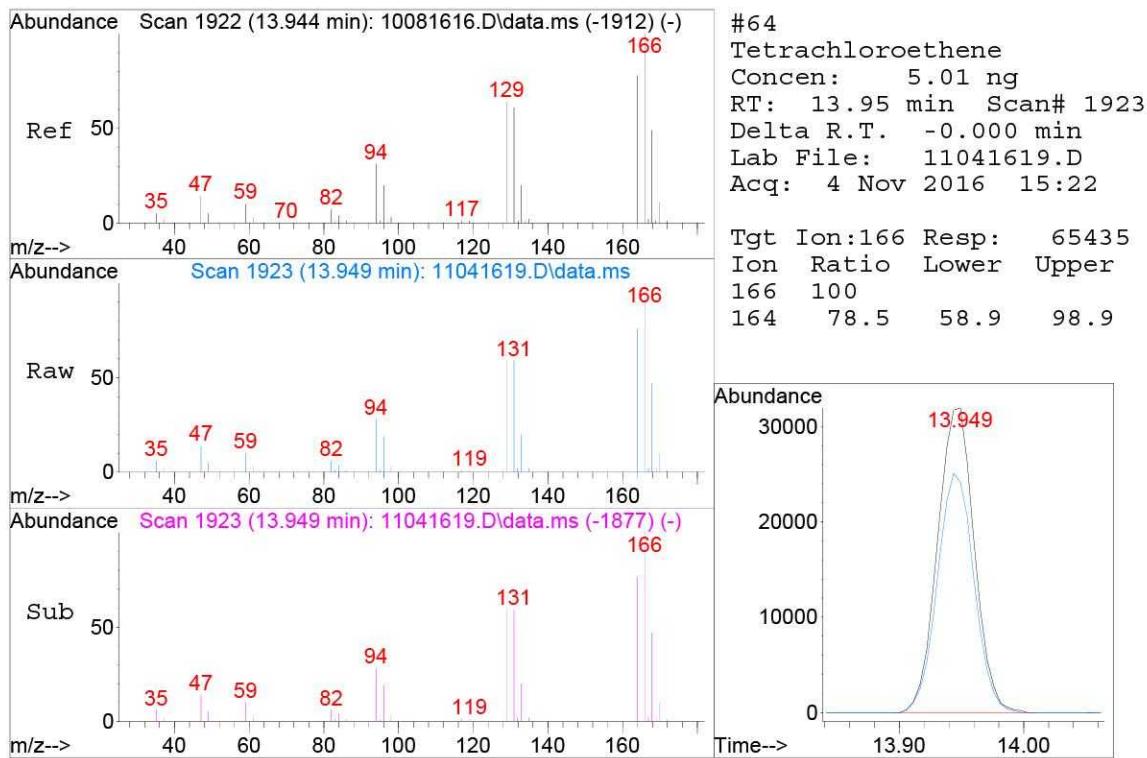
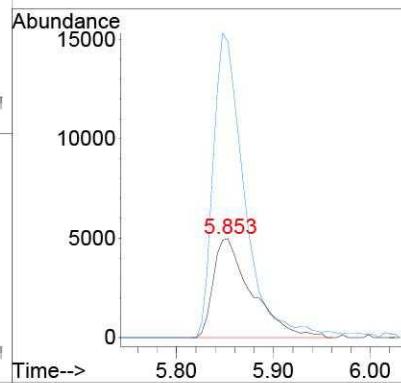
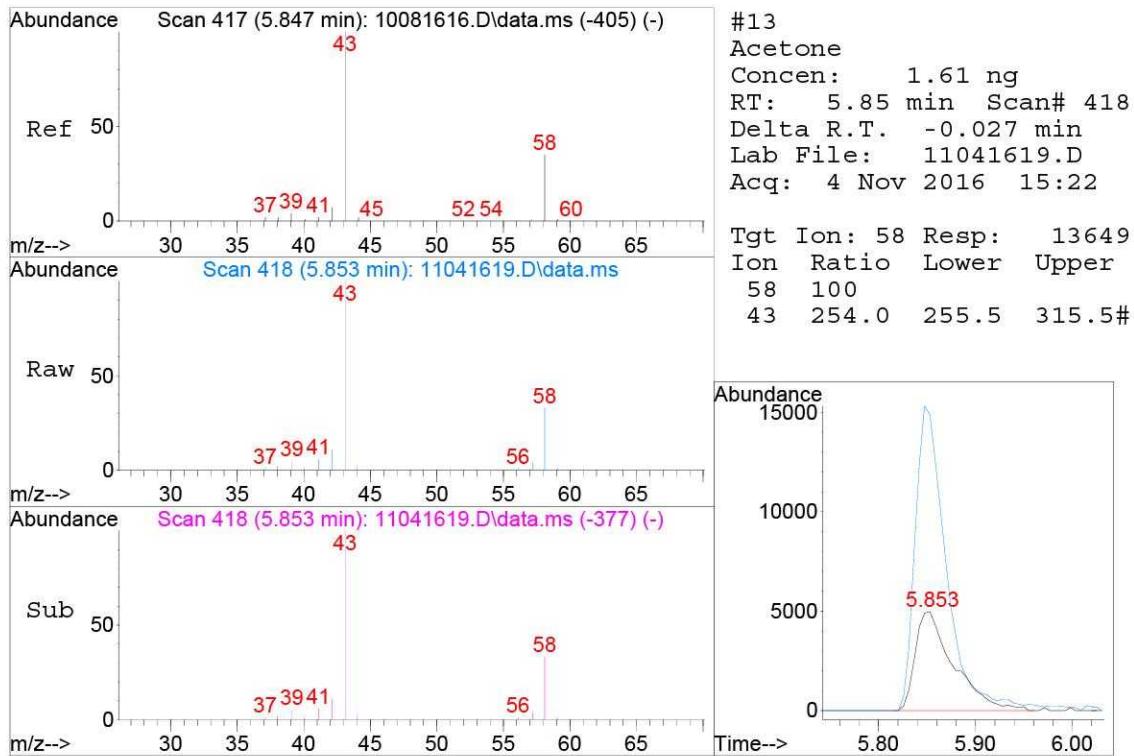
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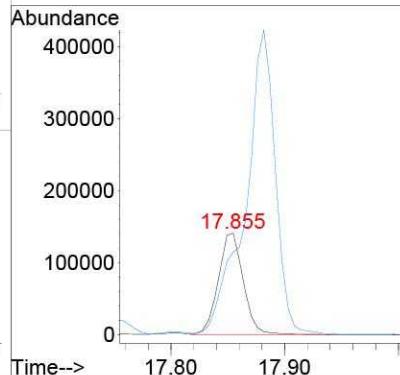
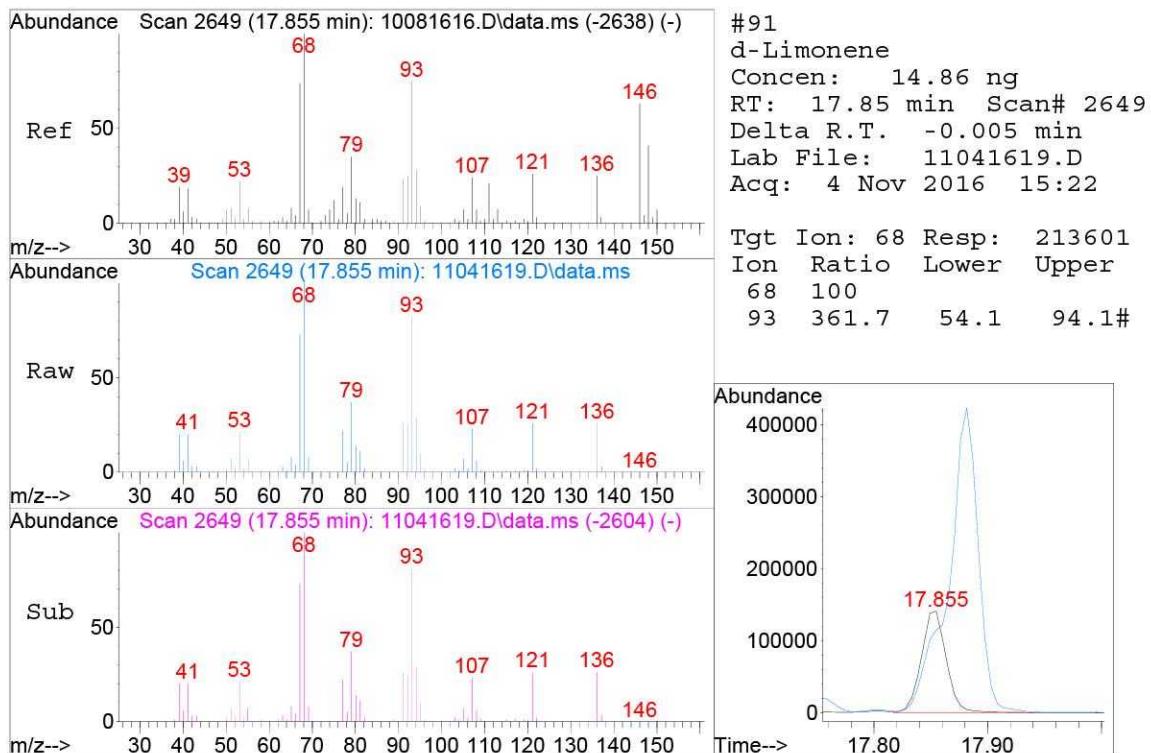
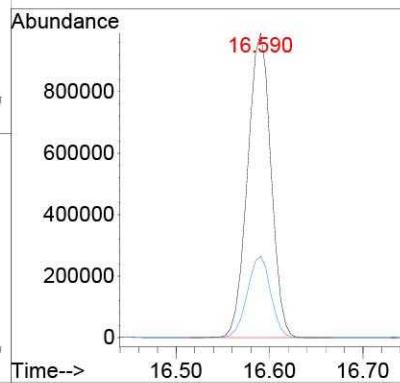
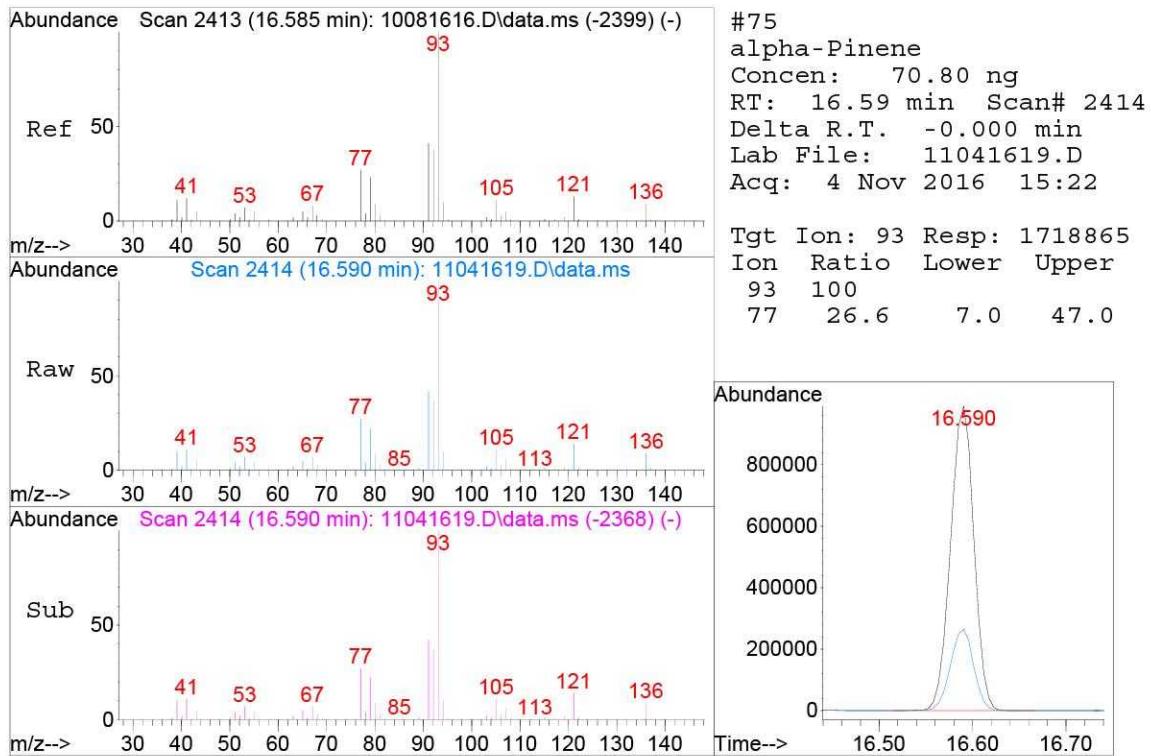
Data File: I:\MS08\Data\2016_11\04\11041619.D
Acq On : 4 Nov 2016 15:22
Sample : P1605059-012 (25mL)
Misc : S29-10041602
ALS Vial : 12 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 07 15:13:10 2016
Quant Method : I:\MS08\Methods\R8100816.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 12 15:54:53 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M







Data File: I:\MS08\Data\2016_11\04\11041628.D
 Acq On : 4 Nov 2016 21:06
 Sample : P1605059-013 (1000mL)
 Misc : S29-10041602
 ALS Vial : 10 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 07 16:22:34 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane (IS1)	8.78	130	108880	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	10.53	114	512605	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.56	82	210113	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.47	65	137351	12.595	ng	-0.03
Spiked Amount	12.500	Range	70 - 130	Recovery	=	100.72%
57) Toluene-d8 (SS2)	12.77	98	533911	12.772	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	102.16%
73) Bromofluorobenzene (SS3)	16.07	174	216100	12.511	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	100.08%

Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	3.88	42	5268m	0.509	ng	
3) Dichlorodifluoromethan...	3.99	85	28077	1.713	ng	99
4) Chloromethane	4.20	50	2432	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	4.35	135	629	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	4.66	54	801	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	5.03	64	667	N.D.		
10) Ethanol	5.35	45	40270	5.853	ng	99
11) Acetonitrile	5.58	41	2725	N.D.		
12) Acrolein	5.71	56	1215	N.D.		
13) Acetone	5.84	58	49579	6.478	ng	# 20
14) Trichlorofluoromethane	6.01	101	13218	0.890	ng	96
15) 2-Propanol (Isopropanol)	6.13	45	12856	0.605	ng	95
16) Acrylonitrile	6.39	53	1216	N.D.		
17) 1,1-Dichloroethene	6.65	96	3528	N.D.		
18) 2-Methyl-2-Propanol (t...	6.76	59	969	N.D.		
19) Methylene Chloride	6.78	84	2752	N.D.		
20) 3-Chloro-1-propene (Al...	6.83	41	2293	N.D.		
21) Trichlorotrifluoroethane	7.06	151	3135	N.D.		
22) Carbon Disulfide	7.04	76	4205	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	8.00	86	799	N.D.		
27) 2-Butanone (MEK)	8.24	72	6657	1.121	ng	# 63
28) cis-1,2-Dichloroethene	8.64	61	1767	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	8.84	61	3646	1.184	ng	97
31) n-Hexane	8.85	57	18027	1.194	ng	98
32) Chloroform	8.91	83	1859	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	10.16	56	2129	N.D.		
41) Benzene	10.23	78	27740	0.679	ng	100
42) Carbon Tetrachloride	10.36	117	4091	N.D.		
43) Cyclohexane	10.48	84	3574	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	11.14	83	488	N.D.		
47) Trichloroethene	11.17	130	6633	0.504	ng	95
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	208 of 288	N.D.	d	

Data File: I:\MS08\Data\2016_11\04\11041628.D
 Acq On : 4 Nov 2016 21:06
 Sample : P1605059-013 (1000mL)
 Misc : S29-10041602
 ALS Vial : 10 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 07 16:22:34 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

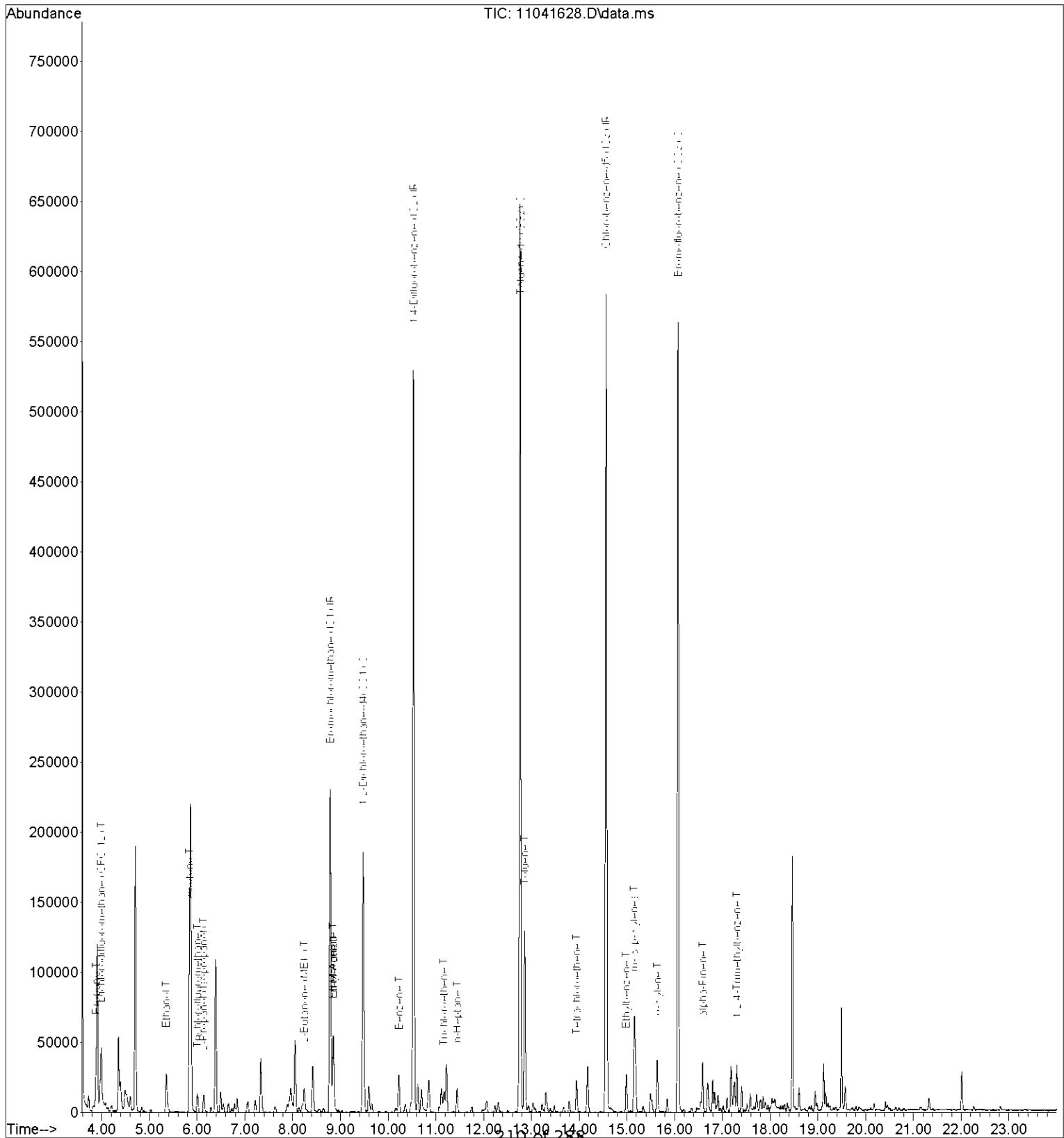
	Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
50)	Methyl Methacrylate	11.45	100	1439	N.D.		
51)	n-Heptane	11.44	71	4587	0.480	ng	94
52)	cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53)	4-Methyl-2-pentanone	11.97	58	650	N.D.		
54)	trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55)	1,1,2-Trichloroethane	0.00	97	0	N.D.		
58)	Toluene	12.86	91	105859	2.580	ng	99
59)	2-Hexanone	13.08	43	2348	N.D.		
60)	Dibromochloromethane	0.00	129	0	N.D.		
61)	1,2-Dibromoethane	0.00	107	0	N.D.		
62)	n-Butyl Acetate	13.67	43	3985	N.D.		
63)	n-Octane	13.79	57	1524	N.D.		
64)	Tetrachloroethene	13.94	166	9440	0.711	ng	99
65)	Chlorobenzene	0.00	112	0	N.D.		
66)	Ethylbenzene	14.99	91	25719	0.568	ng	100
67)	m- & p-Xylenes	15.15	91	65049	1.869	ng	100
68)	Bromoform	0.00	173	0	N.D.		
69)	Styrene	15.53	104	5122	N.D.		
70)	o-Xylene	15.63	91	23396	0.655	ng	100
71)	n-Nonane	15.84	43	4033	N.D.		
72)	1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74)	Cumene	16.20	105	1369	N.D.		
75)	alpha-Pinene	16.59	93	15362	0.622	ng	93
76)	n-Propylbenzene	16.70	91	5227	N.D.		
77)	3-Ethyltoluene	16.79	105	14316	N.D.		
78)	4-Ethyltoluene	16.84	105	6131	N.D.		
79)	1,3,5-Trimethylbenzene	16.91	105	4155	N.D.		
80)	alpha-Methylstyrene	17.26	118	648	N.D.		
81)	2-Ethyltoluene	17.09	105	5884	N.D.		
82)	1,2,4-Trimethylbenzene	17.30	105	18439	0.464	ng	85
83)	n-Decane	17.40	57	6565	N.D.		
84)	Benzyl Chloride	17.53	91	435	N.D.		
85)	1,3-Dichlorobenzene	17.51	146	2508	N.D.		
86)	1,4-Dichlorobenzene	17.51	146	2508	N.D.		
87)	sec-Butylbenzene	17.57	105	471	N.D.		
88)	4-Isopropyltoluene (p-...)	17.71	119	2918	N.D.		
89)	1,2,3-Trimethylbenzene	17.71	105	4554	N.D.		
90)	1,2-Dichlorobenzene	17.84	146	1134	N.D.		
91)	d-Limonene	17.85	68	2415	N.D.		
92)	1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93)	n-Undecane	18.60	57	4783	N.D.		
94)	1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95)	Naphthalene	19.57	128	10845	N.D.		
96)	n-Dodecane	19.58	57	2671	N.D.		
97)	Hexachlorobutadiene	0.00	225	0	N.D.		
98)	Cyclohexanone	15.33	55	1257	N.D.		
99)	tert-Butylbenzene	17.30	119	2461	N.D.		
100)	n-Butylbenzene	18.11	91	2653	N.D.		

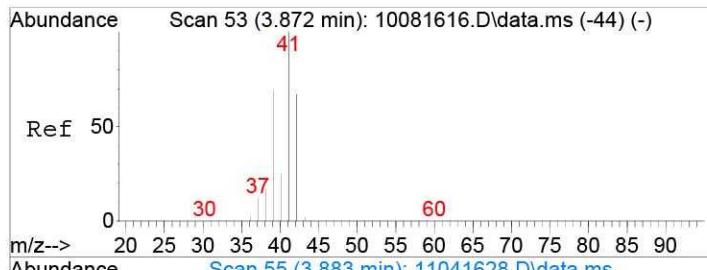
(#= qualifier out of range (m) = manual integration (+) = signals summed

Data File: I:\MS08\Data\2016_11\04\11041628.D
Acq On : 4 Nov 2016 21:06
Sample : P1605059-013 (1000mL)
Misc : S29-10041602
ALS Vial : 10 Sample Multiplier: 1

Operator: WA

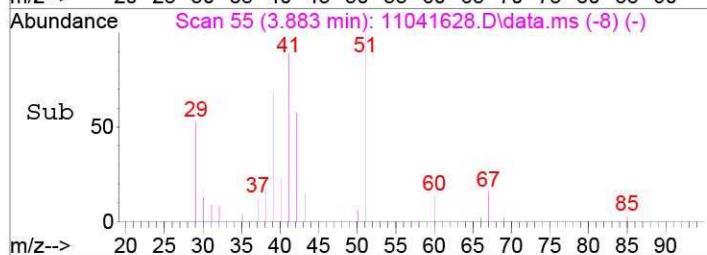
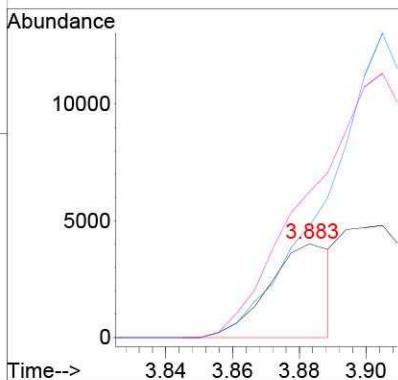
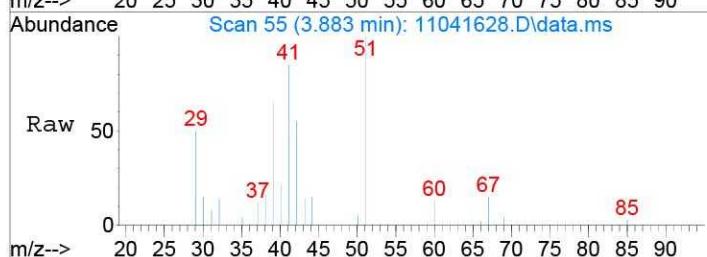
Quant Time: Nov 07 16:22:34 2016
Quant Method : I:\MS08\Methods\R8100816.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Oct 12 15:54:53 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M





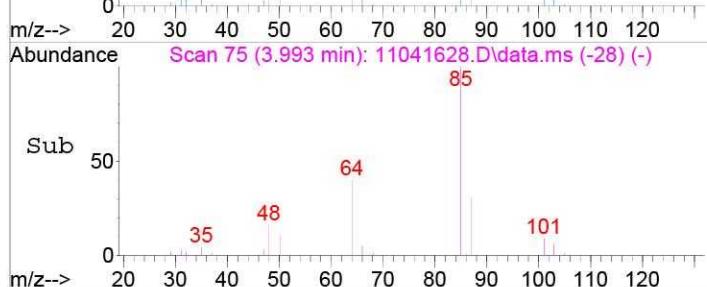
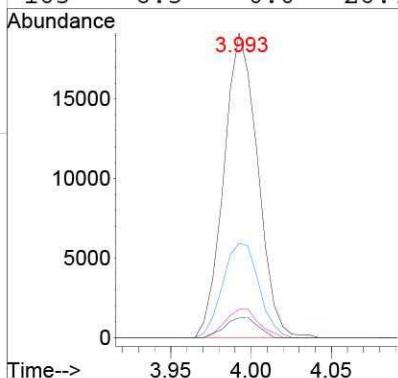
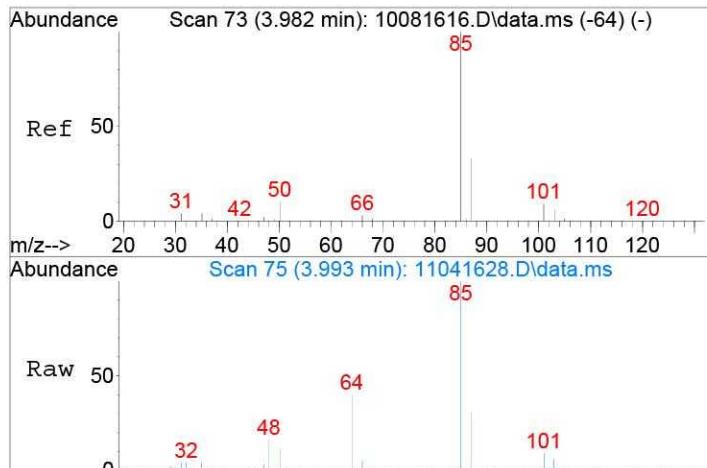
#2
Propene
Concen: 0.51 ng m
RT: 3.88 min Scan# 55
Delta R.T. 0.005 min
Lab File: 11041628.D
Acq: 4 Nov 2016 21:06

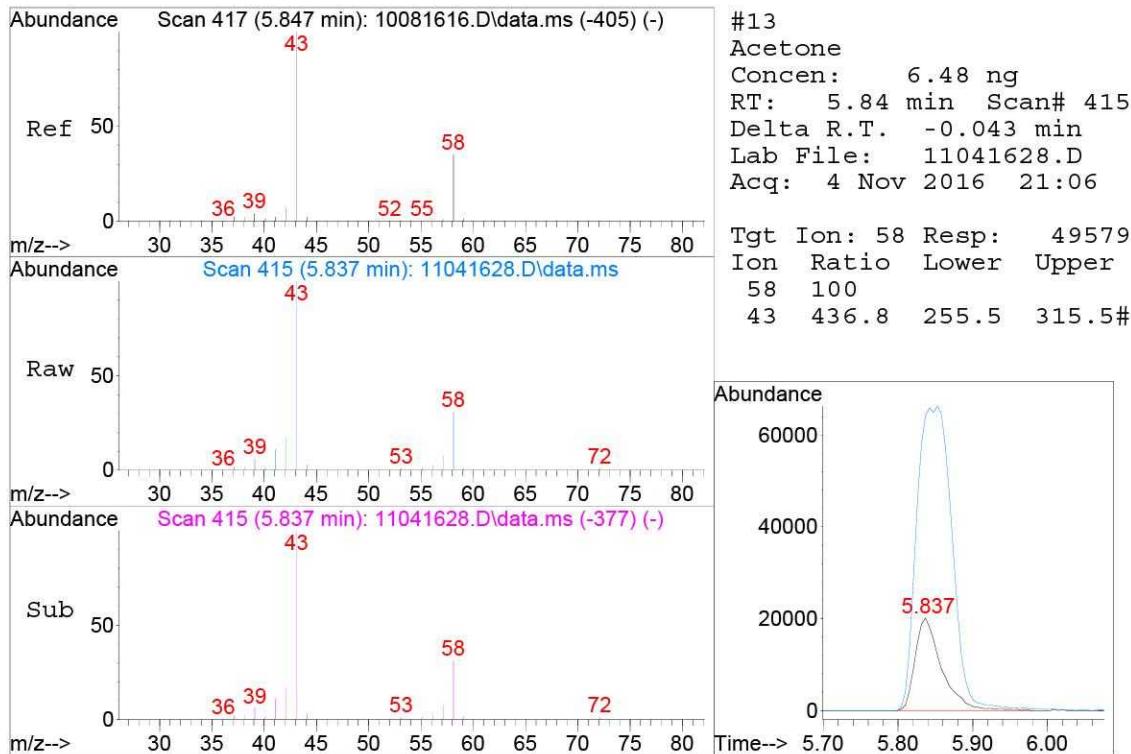
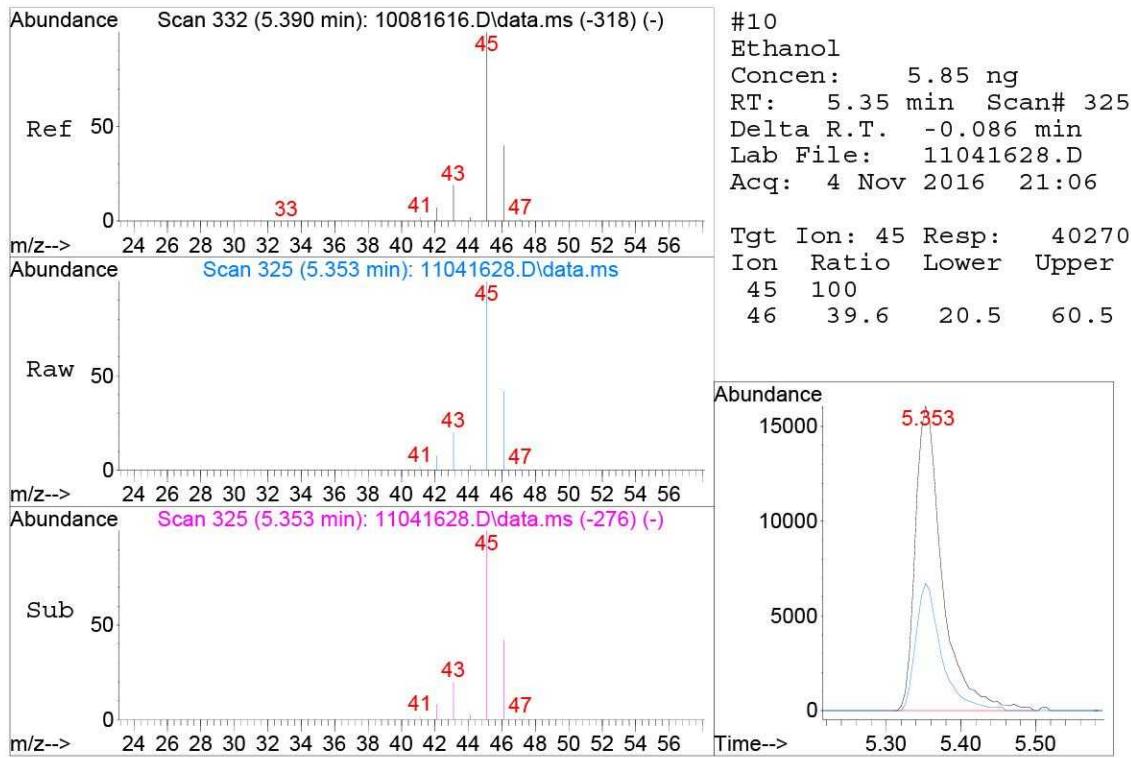
Tgt Ion: 42 Resp: 5268
Ion Ratio Lower Upper
42 100
39 491.8 83.4 123.4#
41 500.2 128.8 168.8#

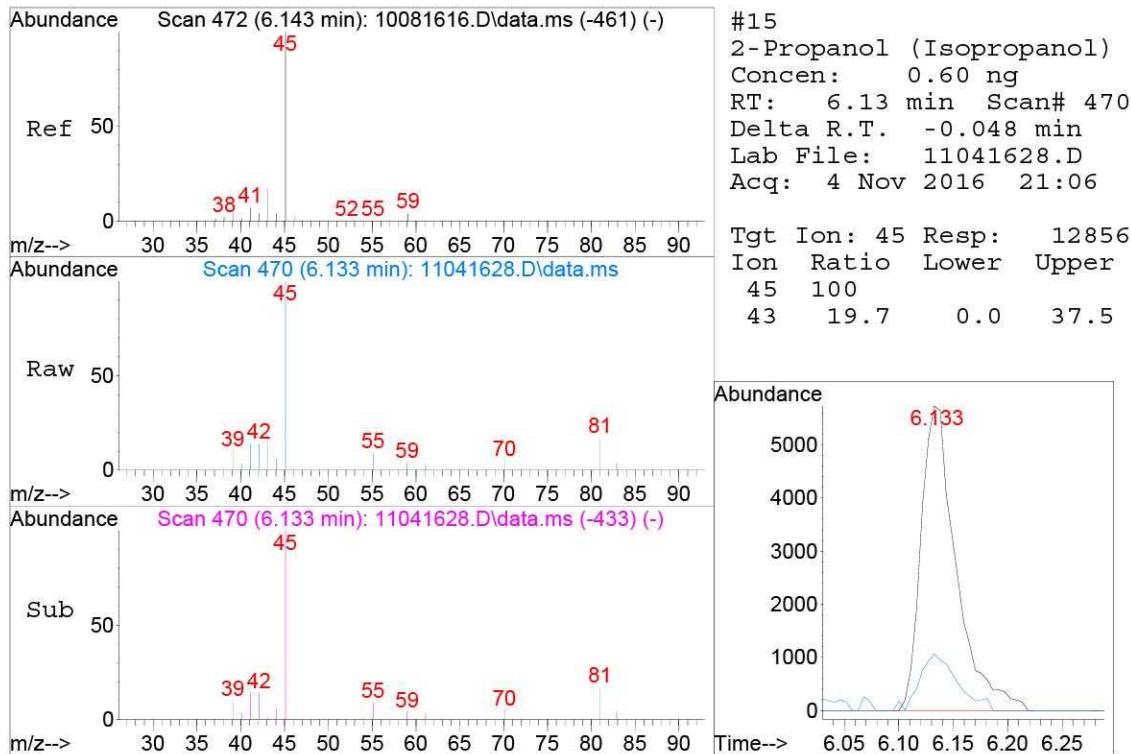
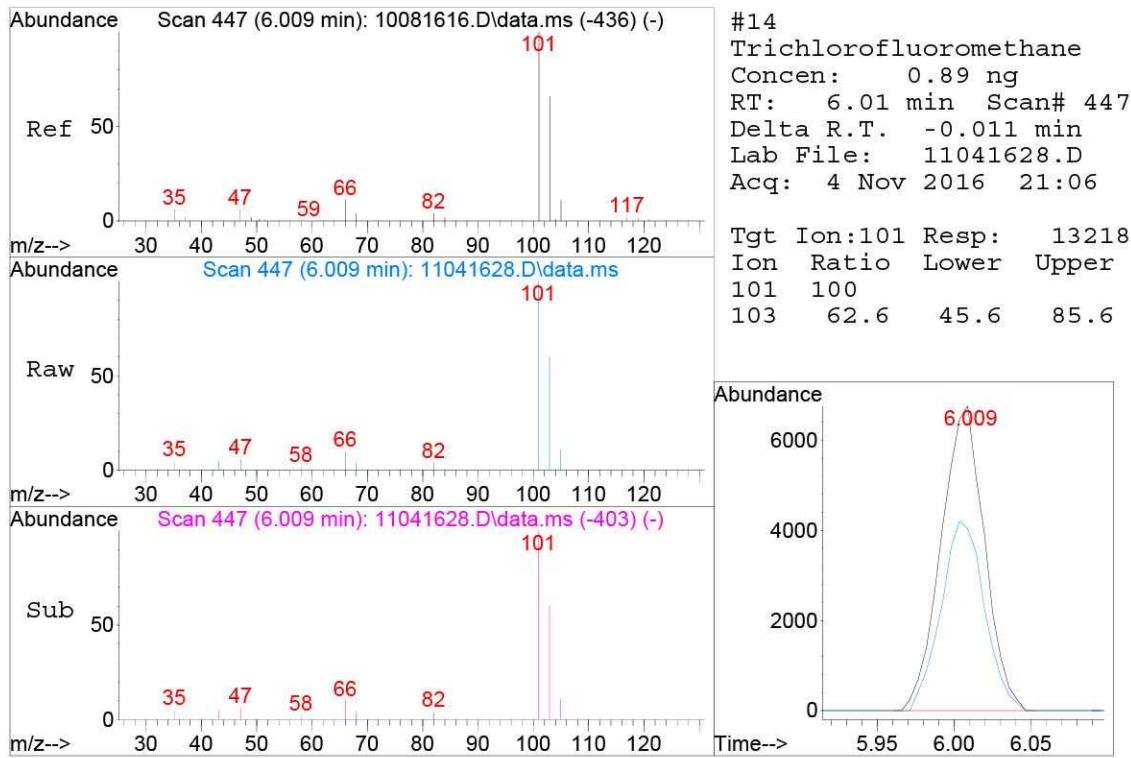


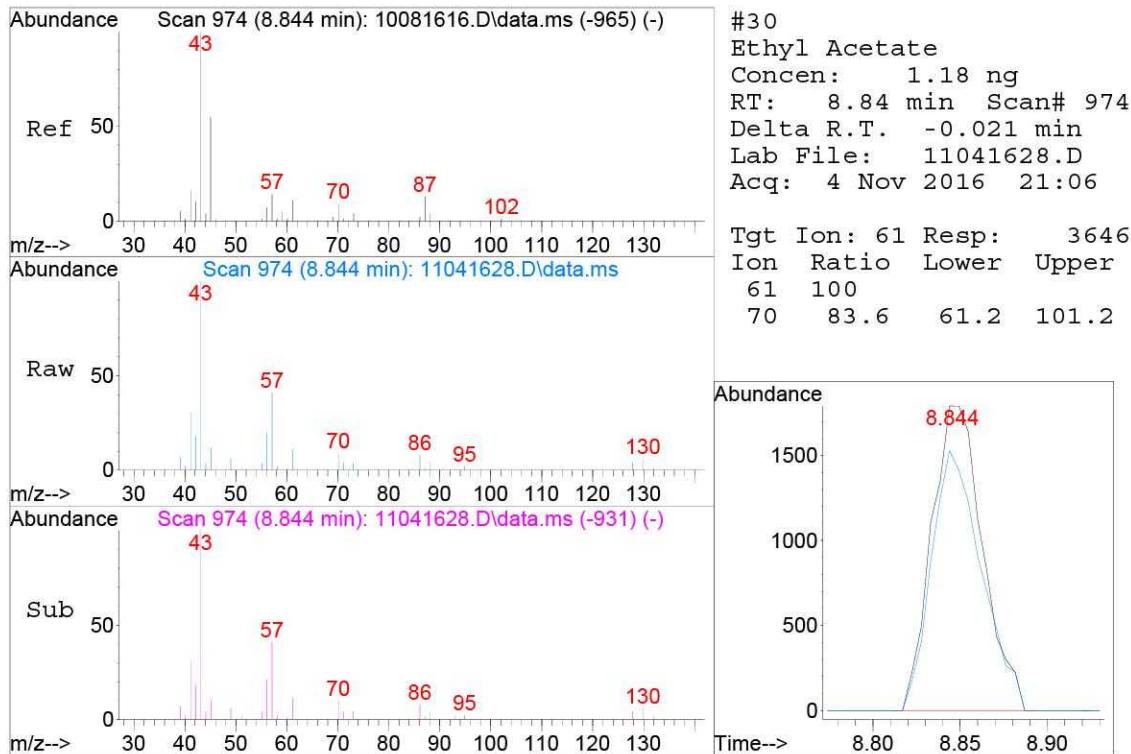
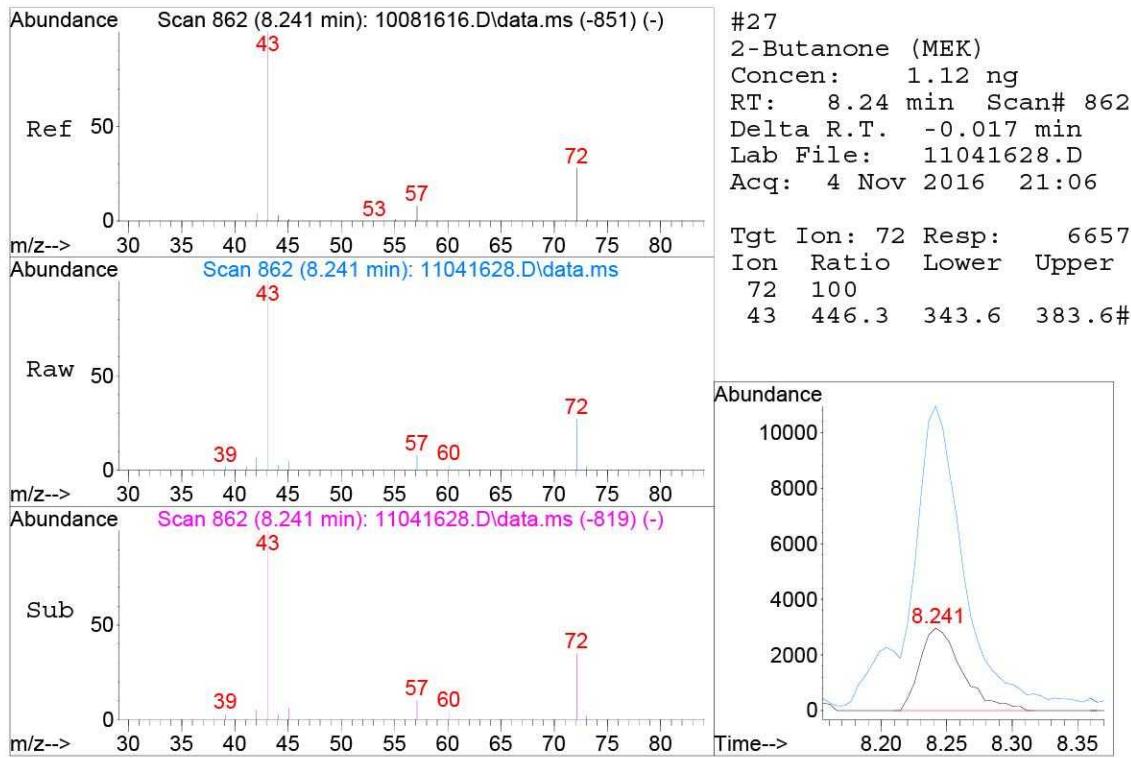
#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.71 ng
RT: 3.99 min Scan# 75
Delta R.T. 0.006 min
Lab File: 11041628.D
Acq: 4 Nov 2016 21:06

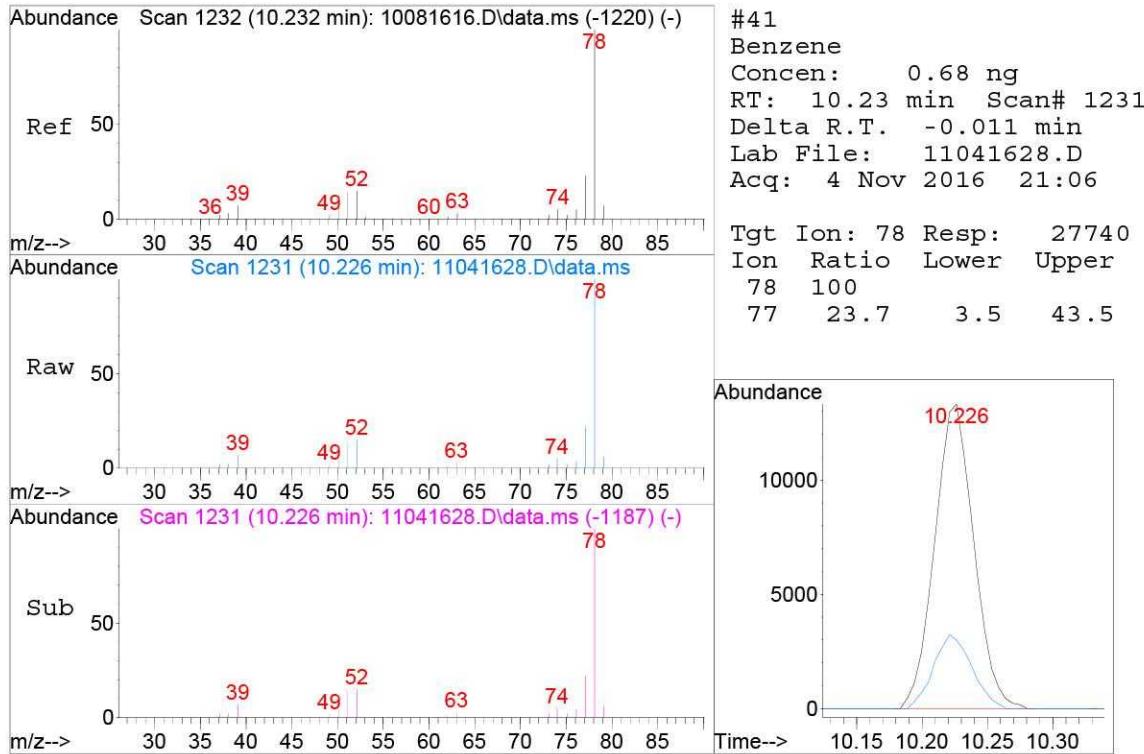
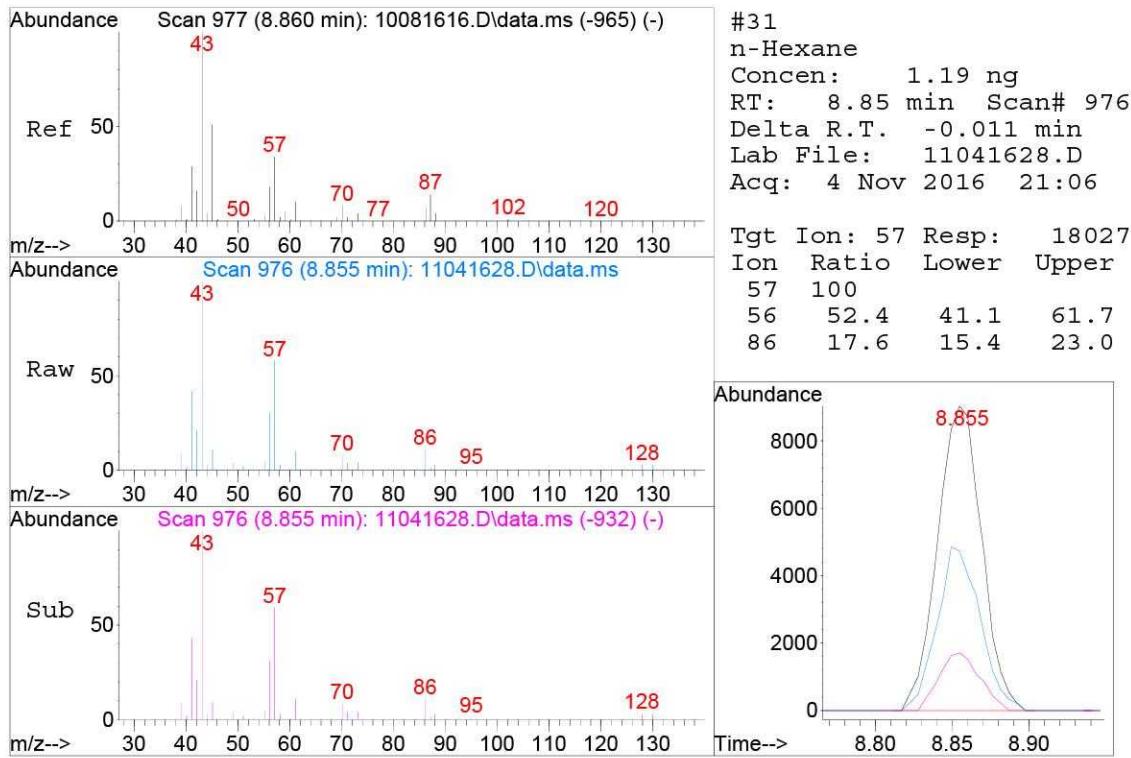
Tgt Ion: 85 Resp: 28077
Ion Ratio Lower Upper
85 100
87 32.9 12.8 52.8
101 9.1 0.0 29.7
103 6.3 0.0 26.4

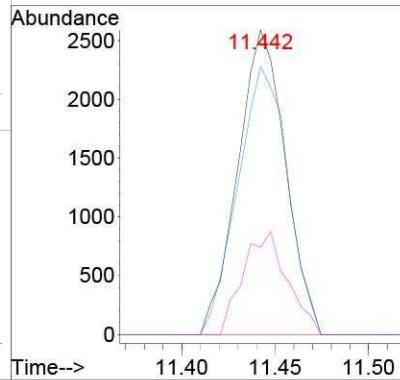
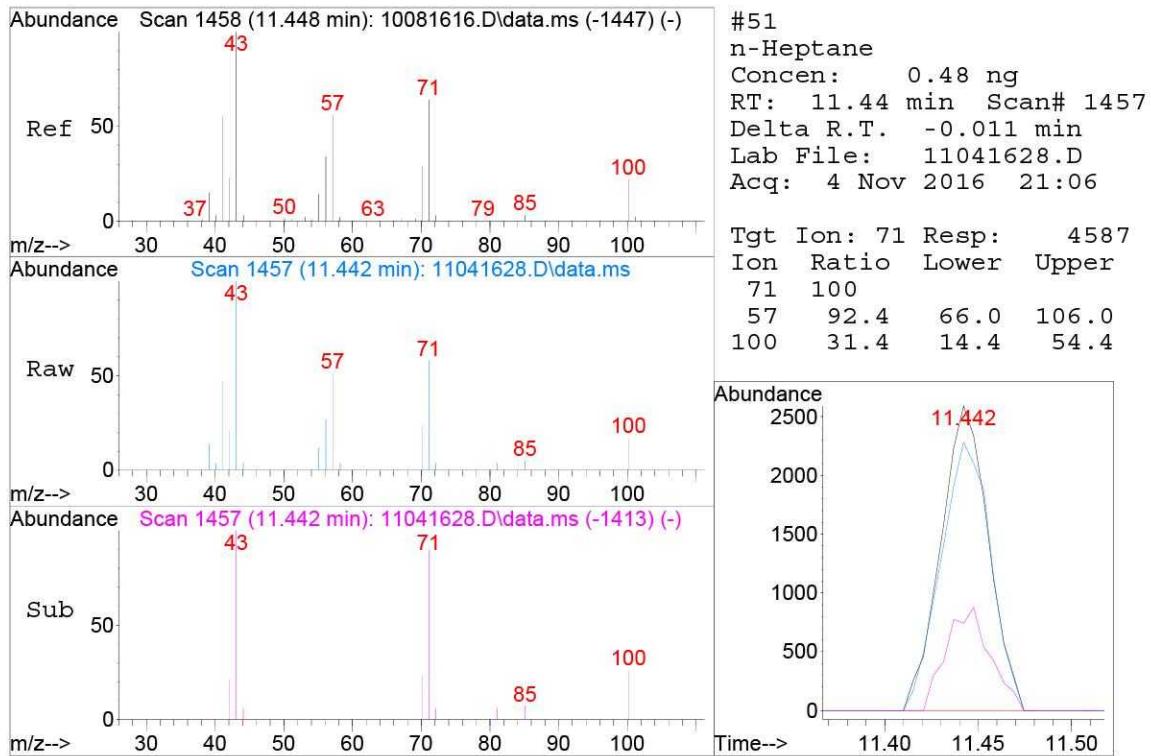
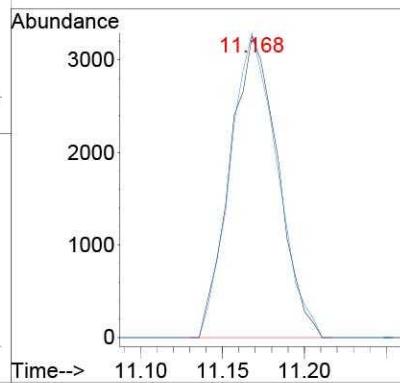
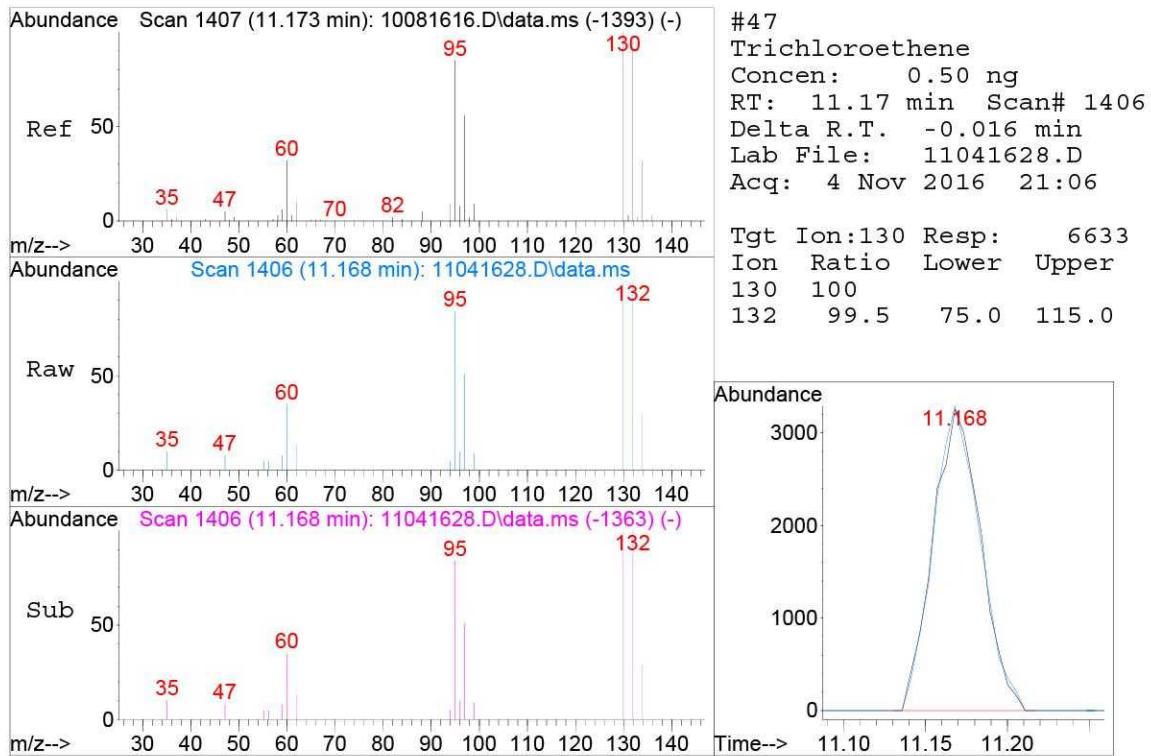


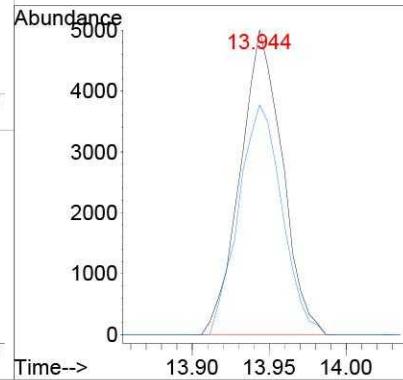
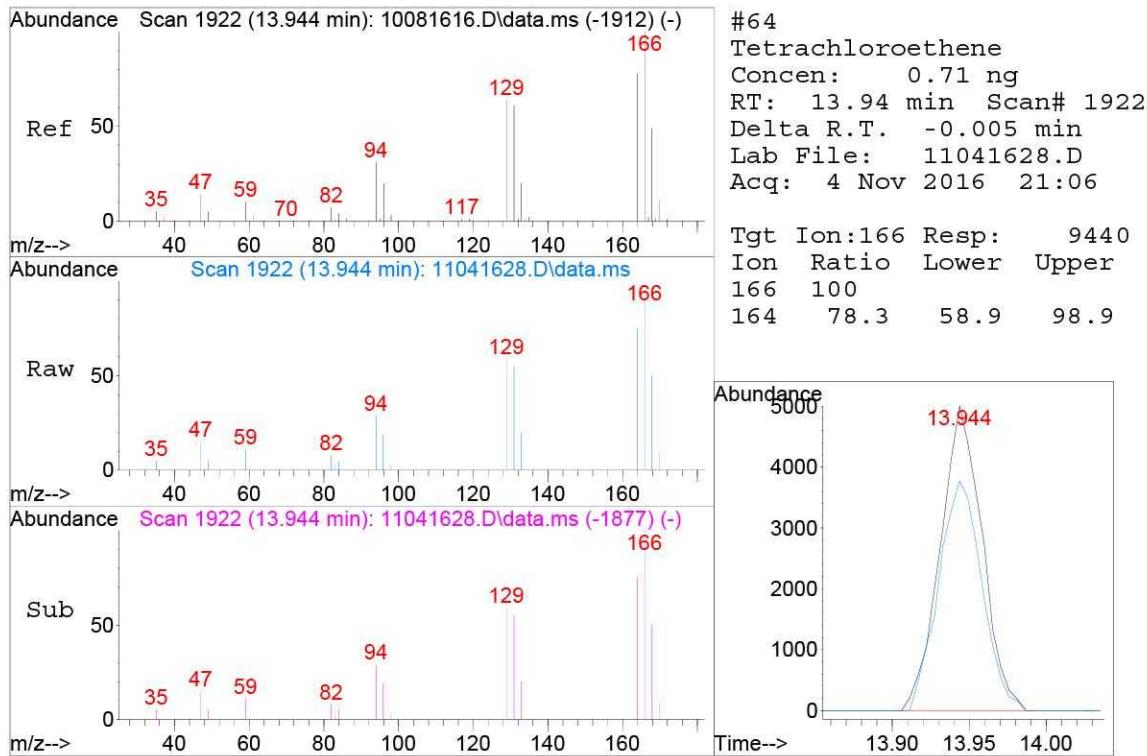
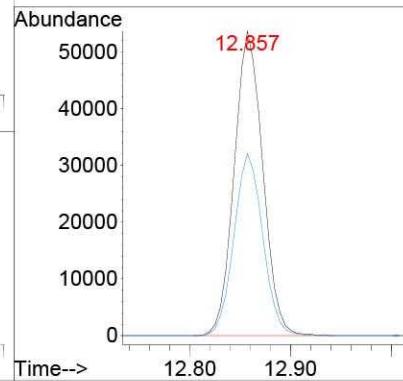
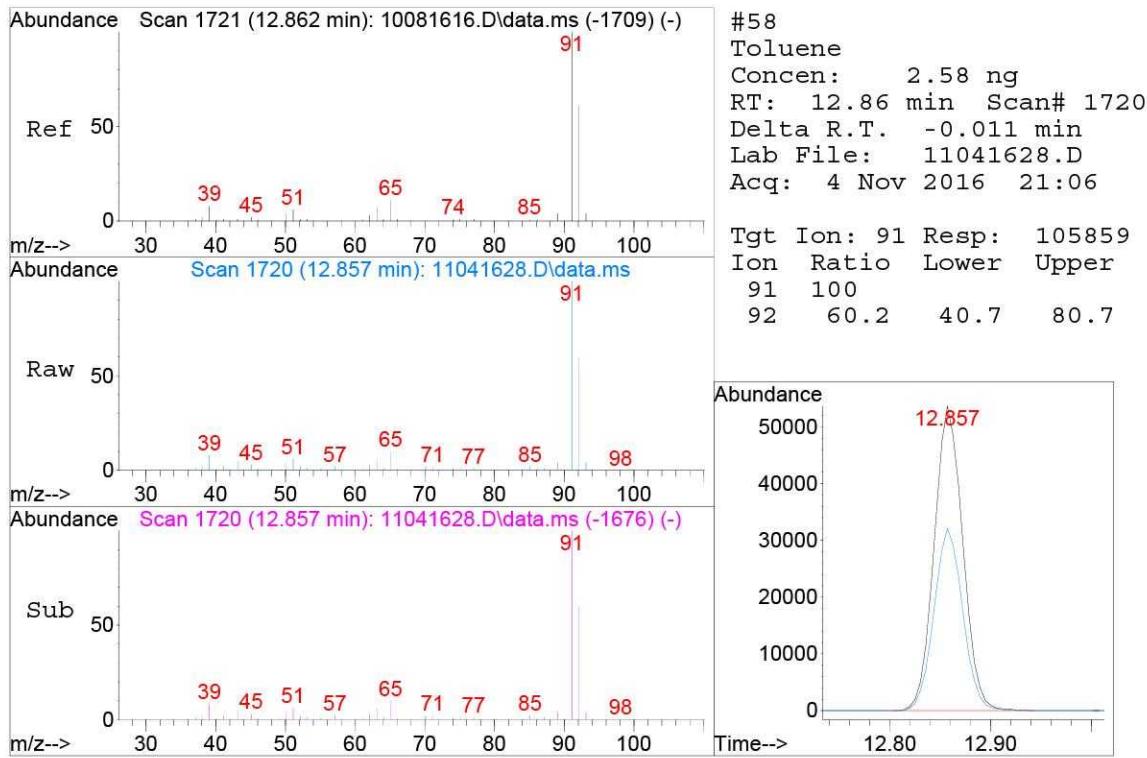


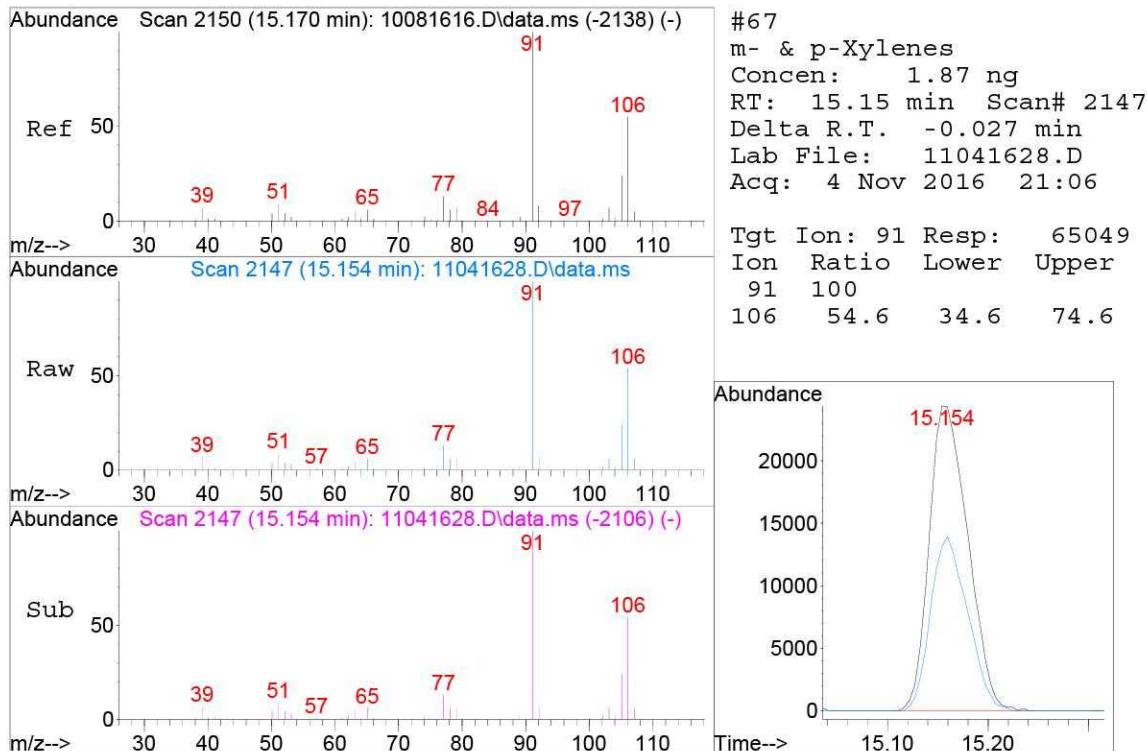
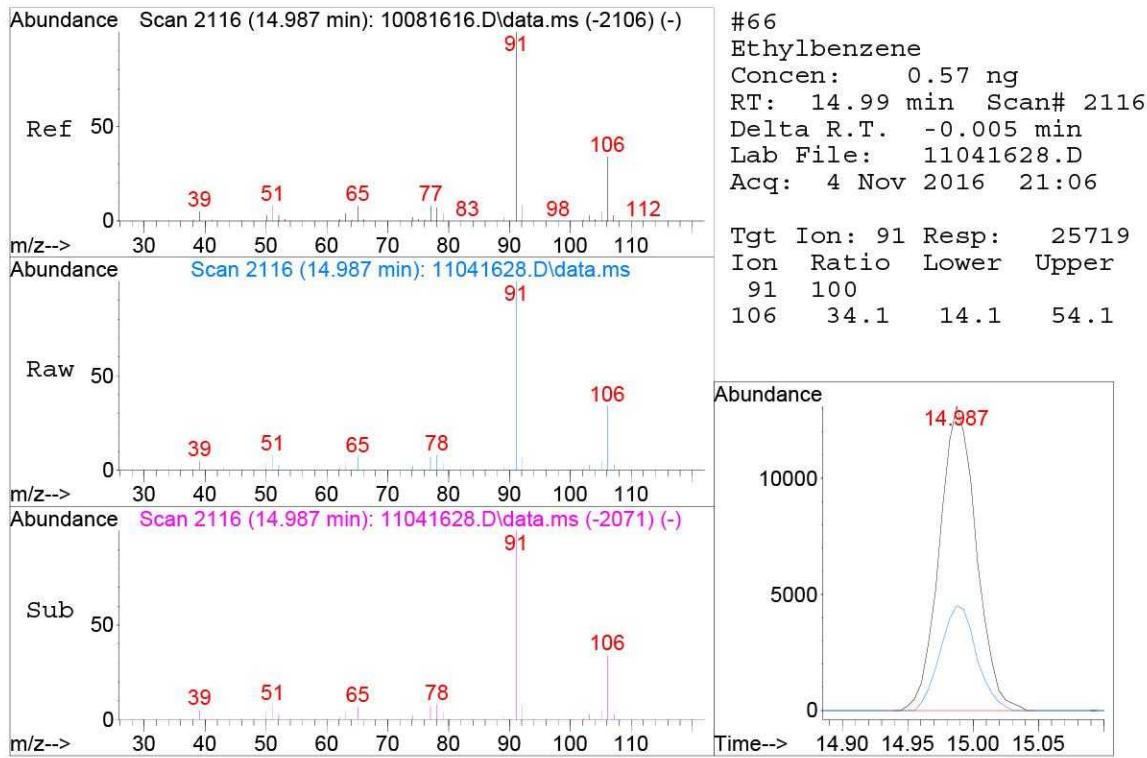


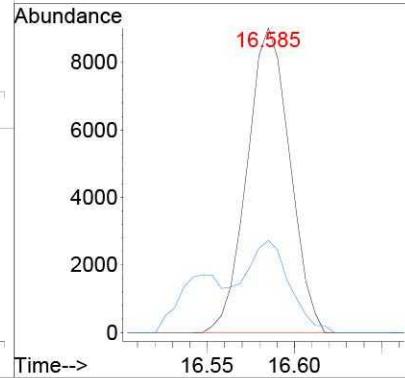
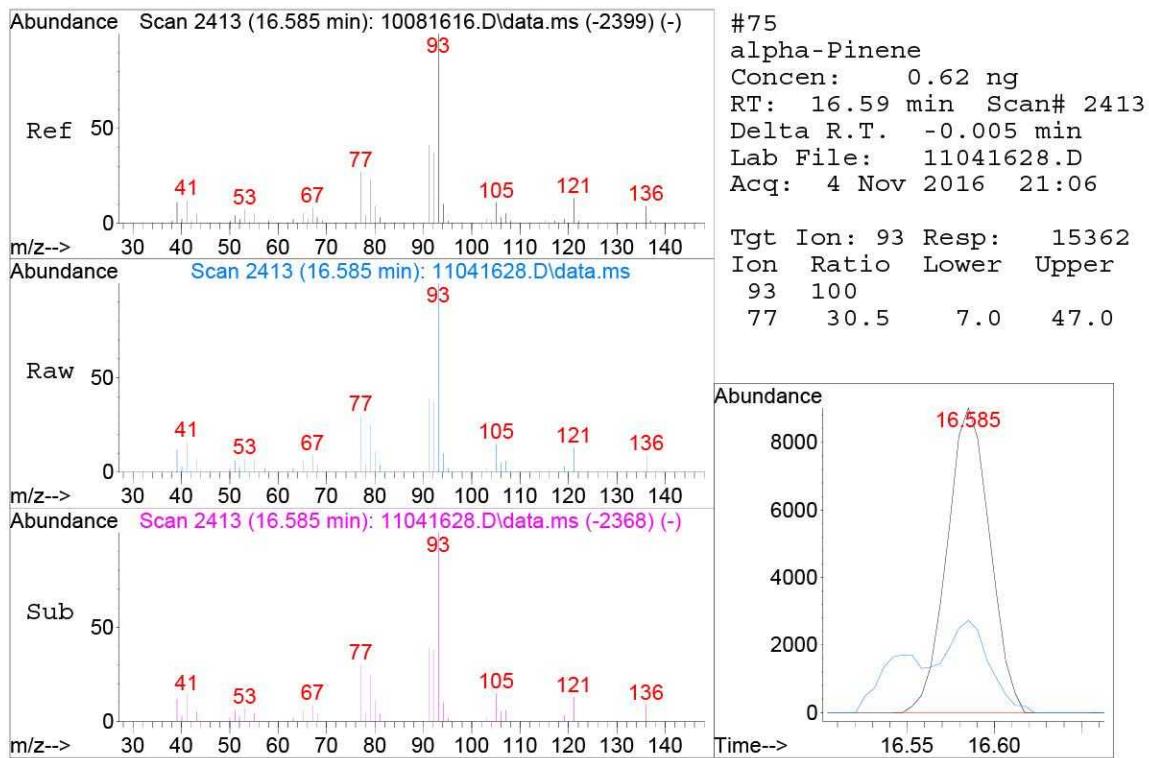
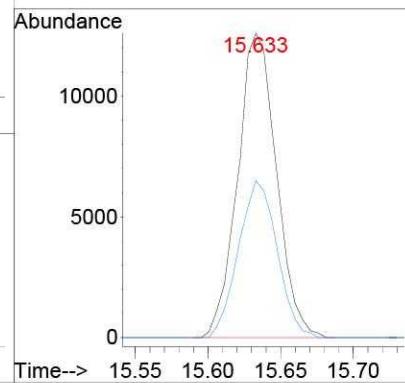
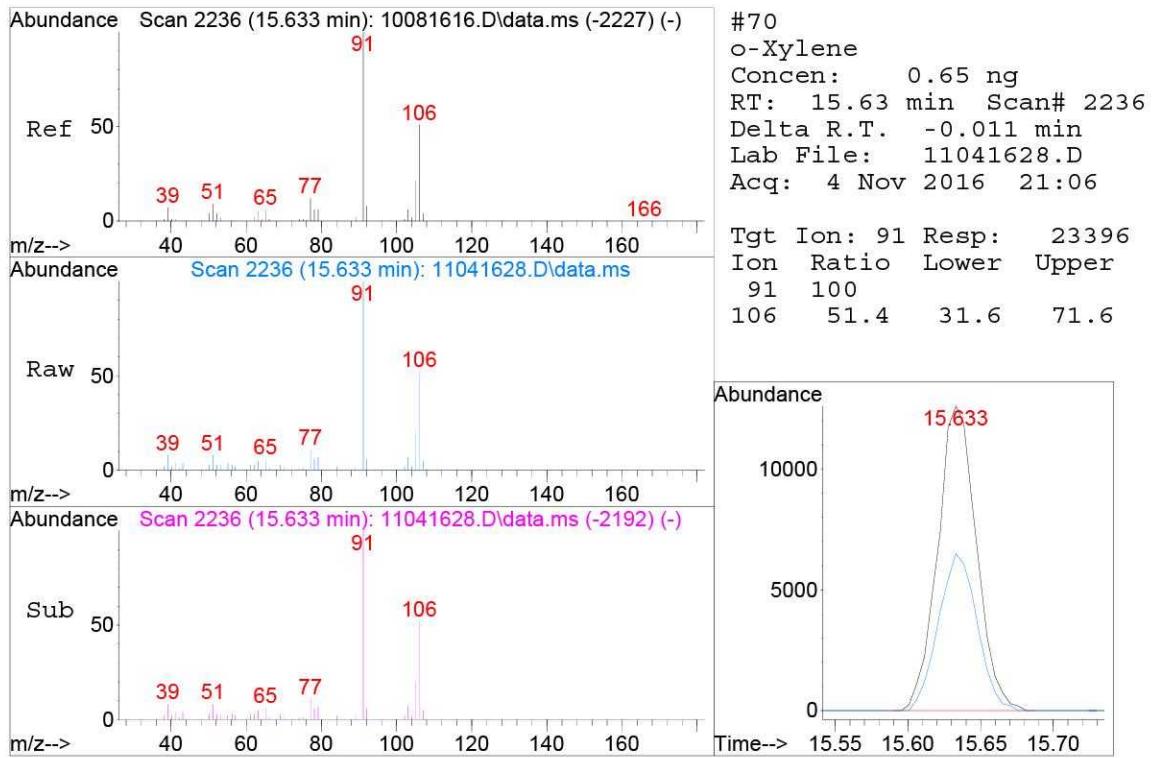


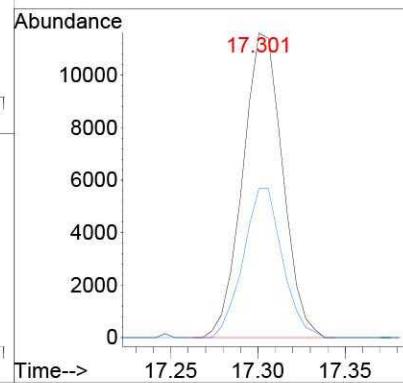
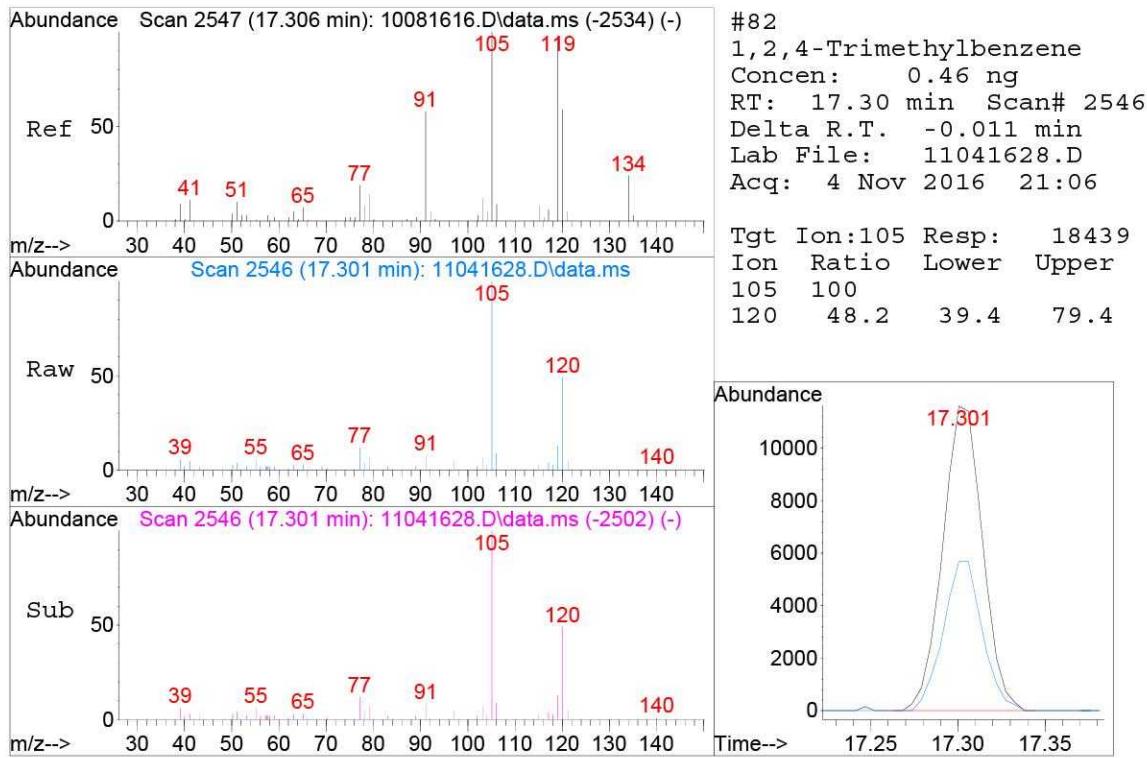








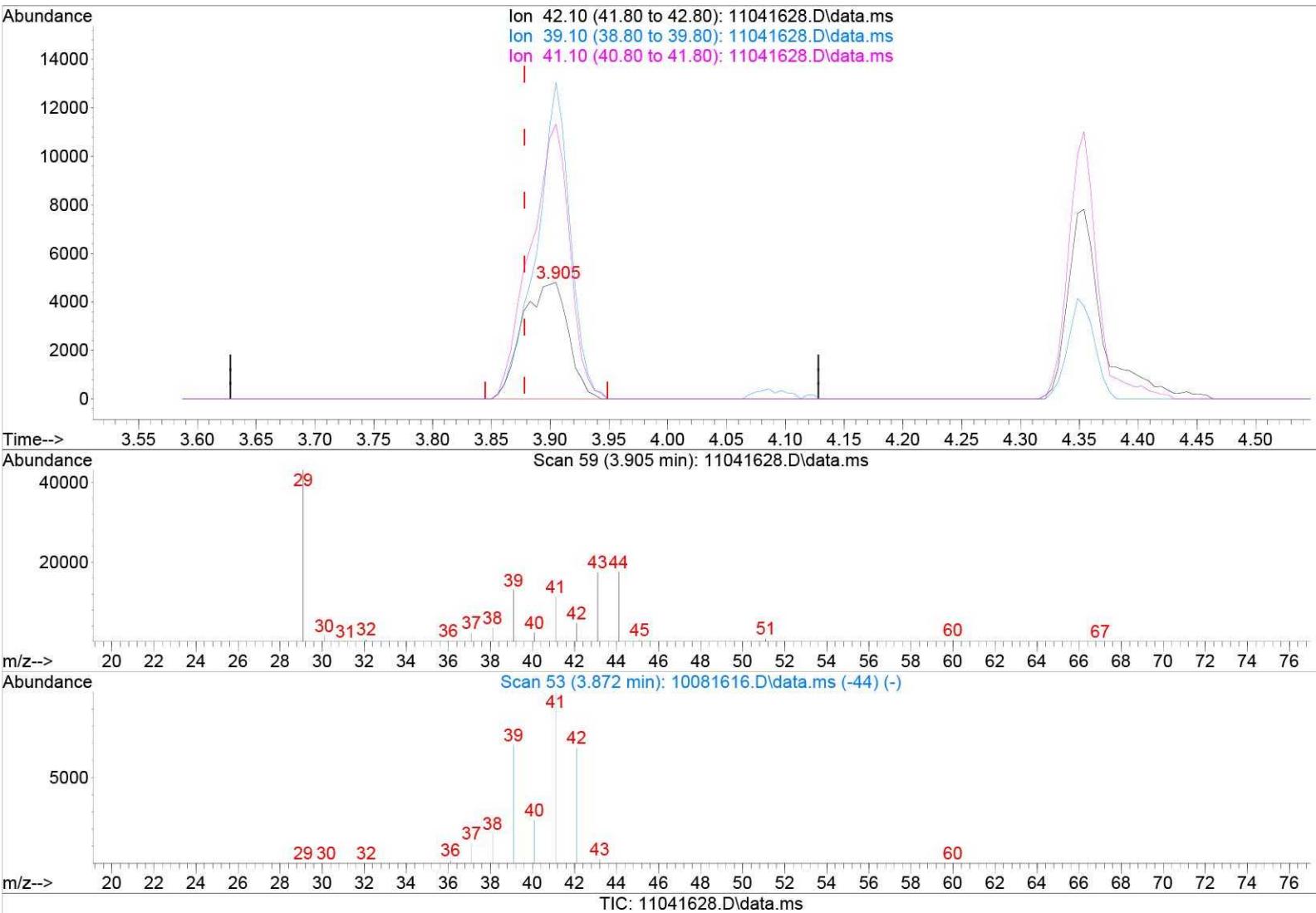




Data File: I:\MS08\Data\2016_11\04\11041628.D
 Acq On : 4 Nov 2016 21:06
 Sample : P1605059-013 (1000mL)
 Misc : S29-10041602
 ALS Vial : 10 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 05 08:39:33 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-T015 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M



(2) Propene (T)

3.905min (+0.027) 1.25ng

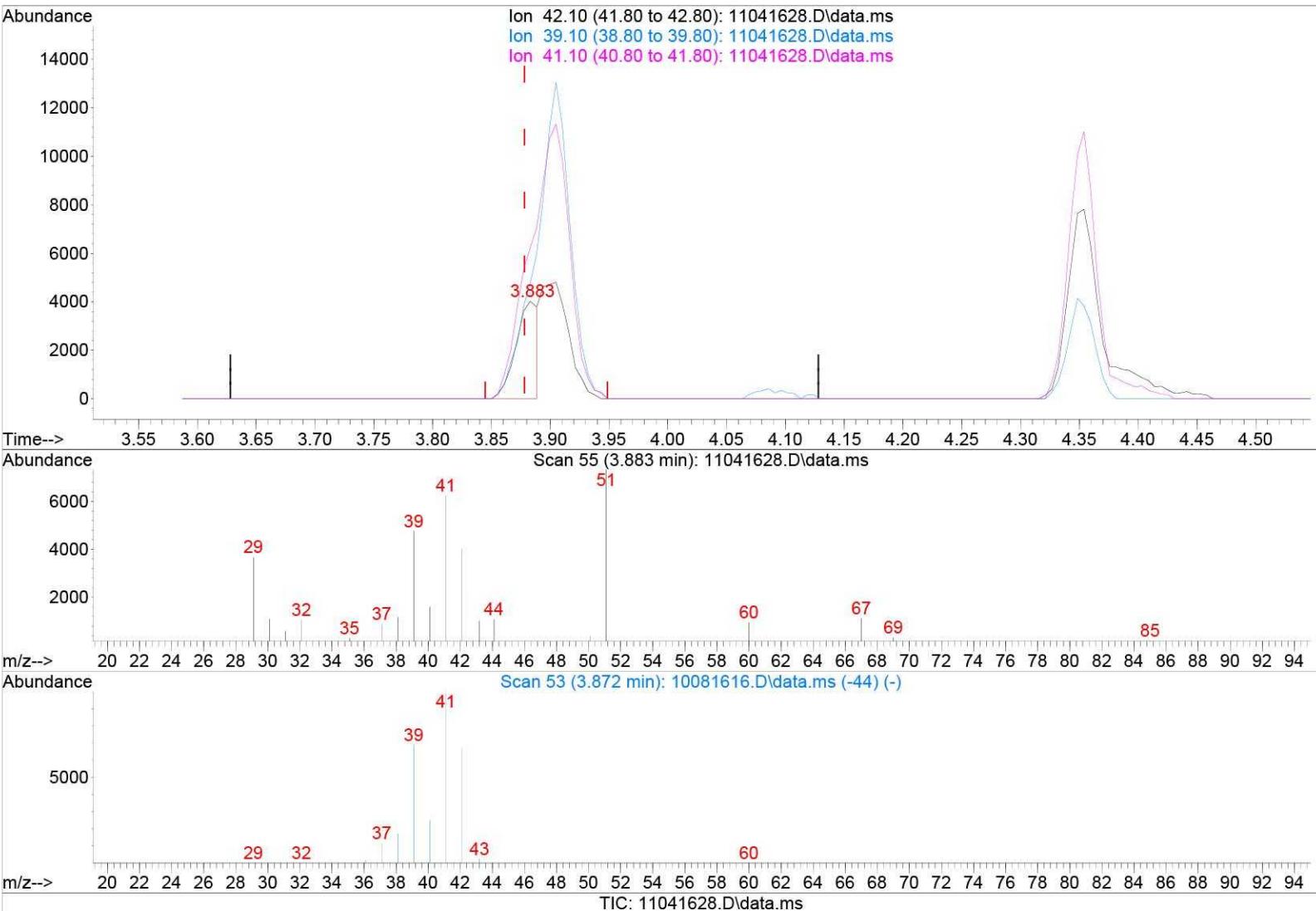
response 12930

Ion	Exp%	Act%
42.10	100	100
39.10	103.40	200.36#
41.10	148.80	203.79#
0.00	0.00	0.00

Data File: I:\MS08\Data\2016_11\04\11041628.D
 Acq On : 4 Nov 2016 21:06
 Sample : P1605059-013 (1000mL)
 Misc : S29-10041602
 ALS Vial : 10 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 05 08:39:33 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-T015 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M



(2) Propene (T)

3.883min (+0.005) 0.51ng m

response 5268

Ion	Exp%	Act%
42.10	100	100
39.10	103.40	491.76#
41.10	148.80	500.19#
0.00	0.00	0.00

Data File: I:\MS08\Data\2016_11\04\11041629.D
 Acq On : 4 Nov 2016 21:38
 Sample : P1605059-014 (1000mL)
 Misc : S29-10041602
 ALS Vial : 11 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 07 16:23:41 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane (IS1)	8.78	130	109111	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	10.53	114	514366	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.56	82	213485	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.47	65	138936	12.713	ng	-0.03
Spiked Amount	12.500	Range	70 - 130	Recovery	=	101.68%
57) Toluene-d8 (SS2)	12.76	98	533227	12.554	ng	-0.01
Spiked Amount	12.500	Range	70 - 130	Recovery	=	100.40%
73) Bromofluorobenzene (SS3)	16.07	174	219033	12.480	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	99.84%

Target Compounds

					Qvalue
2) Propene	0.00	42	0	N.D.	d
3) Dichlorodifluoromethan...	3.99	85	25266	1.538	ng 99
4) Chloromethane	4.20	50	1089	N.D.	
5) 1,2-Dichloro-1,1,2,2-t...	4.35	135	616	N.D.	
6) Vinyl Chloride	0.00	62	0	N.D.	
7) 1,3-Butadiene	4.66	54	498	N.D.	
8) Bromomethane	0.00	94	0	N.D.	
9) Chloroethane	0.00	64	0	N.D.	
10) Ethanol	5.36	45	15006	2.176	ng 96
11) Acetonitrile	5.59	41	1490	N.D.	
12) Acrolein	5.72	56	864	N.D.	
13) Acetone	5.84	58	29864	3.894	ng # 1
14) Trichlorofluoromethane	6.01	101	11527	0.775	ng 99
15) 2-Propanol (Isopropanol)	6.14	45	8777	N.D.	
16) Acrylonitrile	6.39	53	1737	N.D.	
17) 1,1-Dichloroethene	6.65	96	9048	1.027	ng 96
18) 2-Methyl-2-Propanol (t...	6.76	59	1027	N.D.	
19) Methylene Chloride	6.78	84	2055	N.D.	
20) 3-Chloro-1-propene (Al...	6.84	41	3866	N.D.	
21) Trichlorotrifluoroethane	7.06	151	2969	N.D.	
22) Carbon Disulfide	7.05	76	4632	N.D.	
23) trans-1,2-Dichloroethene	7.87	61	2363	N.D.	
24) 1,1-Dichloroethane	7.86	63	617	N.D.	
25) Methyl tert-Butyl Ether	7.88	73	1026	N.D.	
26) Vinyl Acetate	0.00	86	0	N.D.	d
27) 2-Butanone (MEK)	8.25	72	5262	0.885	ng 98
28) cis-1,2-Dichloroethene	8.64	61	3152	N.D.	
29) Diisopropyl Ether	0.00	87	0	N.D.	
30) Ethyl Acetate	8.86	61	689	N.D.	
31) n-Hexane	8.85	57	31275	2.068	ng 97
32) Chloroform	8.91	83	2752	N.D.	
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.	
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.	
36) 1,2-Dichloroethane	0.00	62	0	N.D.	
38) 1,1,1-Trichloroethane	9.82	97	715	N.D.	
39) Isopropyl Acetate	0.00	61	0	N.D.	
40) 1-Butanol	10.15	56	1632	N.D.	
41) Benzene	10.22	78	34935	0.852	ng 99
42) Carbon Tetrachloride	10.36	117	3448	N.D.	
43) Cyclohexane	10.48	84	7071	N.D.	
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.	
45) 1,2-Dichloropropane	0.00	63	0	N.D.	
46) Bromodichloromethane	11.14	83	815	N.D.	
47) Trichloroethene	11.17	130	12197	0.924	ng 94
48) 1,4-Dioxane	0.00	88	0	N.D.	
49) 2,2,4-Trimethylpentane...	0.00	57	223 of 288	N.D.	d

Data File: I:\MS08\Data\2016_11\04\11041629.D
 Acq On : 4 Nov 2016 21:38
 Sample : P1605059-014 (1000mL)
 Misc : S29-10041602
 ALS Vial : 11 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 07 16:23:41 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

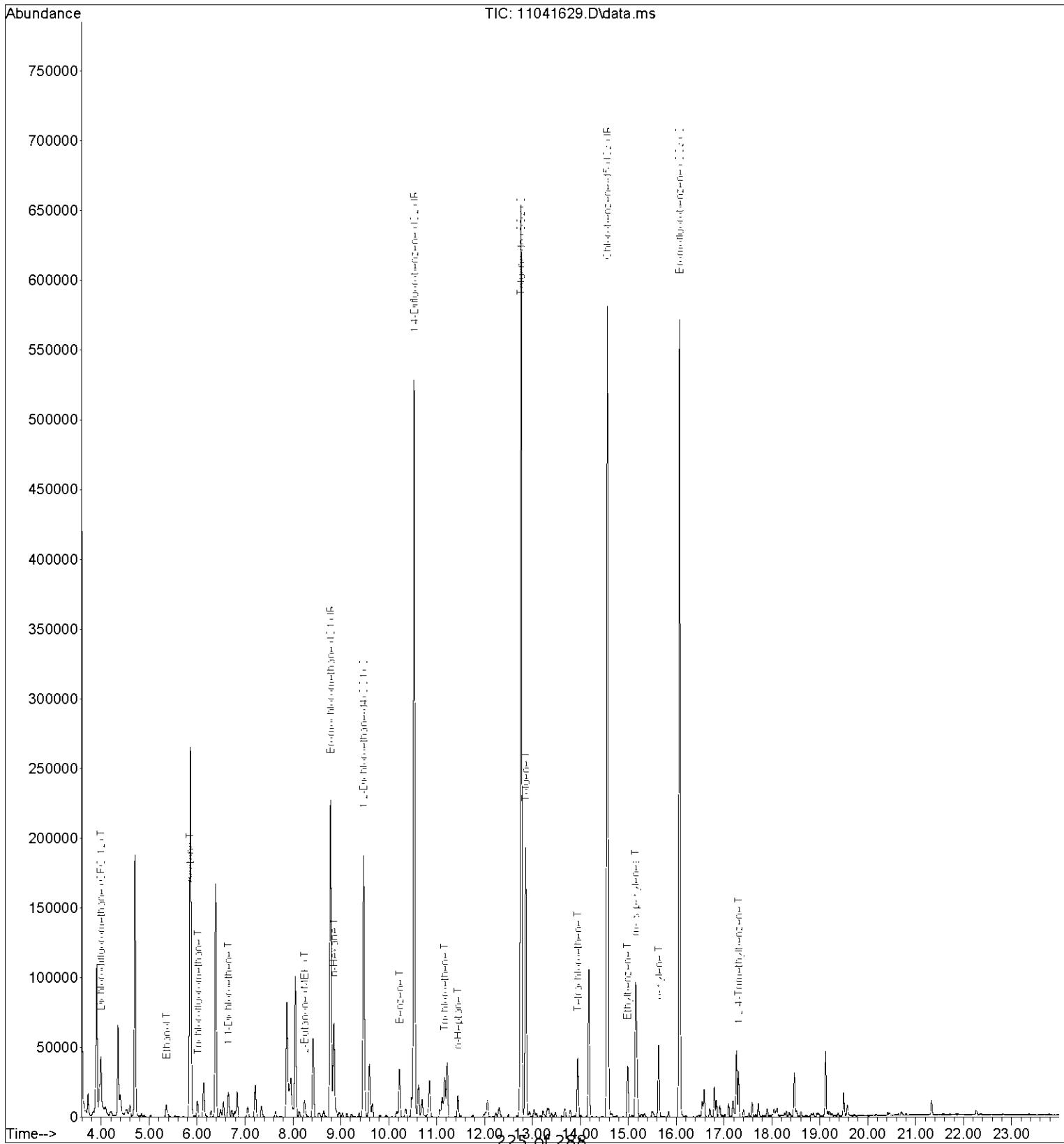
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
50) Methyl Methacrylate	11.44	100	1403	N.D.		
51) n-Heptane	11.44	71	4596	0.480	ng	97
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.97	58	538	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.86	91	161936	3.884	ng	99
59) 2-Hexanone	13.09	43	2430	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.67	43	5736	N.D.		
63) n-Octane	13.79	57	929	N.D.		
64) Tetrachloroethene	13.94	166	17434	1.292	ng	100
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	14.99	91	34485	0.750	ng	99
67) m- & p-Xylenes	15.15	91	89259	2.525	ng	99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	15.52	104	2132	N.D.		
70) o-Xylene	15.63	91	34737	0.956	ng	99
71) n-Nonane	15.84	43	1848	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	16.20	105	1247	N.D.		
75) alpha-Pinene	16.58	93	8672	N.D.		
76) n-Propylbenzene	16.69	91	4946	N.D.		
77) 3-Ethyltoluene	16.79	105	14791	N.D.		
78) 4-Ethyltoluene	16.83	105	6150	N.D.		
79) 1,3,5-Trimethylbenzene	16.91	105	4988	N.D.		
80) alpha-Methylstyrene	17.26	118	788	N.D.		
81) 2-Ethyltoluene	17.09	105	7401	N.D.		
82) 1,2,4-Trimethylbenzene	17.30	105	19850	0.492	ng	88
83) n-Decane	17.40	57	2289	N.D.		
84) Benzyl Chloride	17.31	91	1756	N.D.		
85) 1,3-Dichlorobenzene	17.52	146	1747	N.D.		
86) 1,4-Dichlorobenzene	17.52	146	1747	N.D.		
87) sec-Butylbenzene	17.71	105	5321	N.D.		
88) 4-Isopropyltoluene (p-...)	17.71	119	1946	N.D.		
89) 1,2,3-Trimethylbenzene	17.71	105	5321	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	17.85	68	568	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	18.60	57	1887	N.D.		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	19.57	128	6483	N.D.		
96) n-Dodecane	19.58	57	1006	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	15.33	55	832	N.D.		
99) tert-Butylbenzene	17.31	119	2665	N.D.		
100) n-Butylbenzene	18.12	91	1858	N.D.		

(#= qualifier out of range (m)= manual integration (+)= signals summed

Data File: I:\MS08\Data\2016_11\04\11041629.D
 Acq On : 4 Nov 2016 21:38
 Sample : P1605059-014 (1000mL)
 Misc : S29-10041602
 ALS Vial : 11 Sample Multiplier: 1

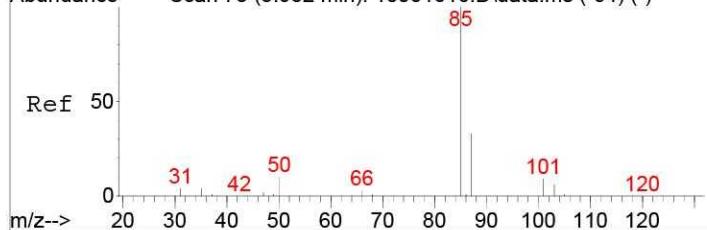
Operator: WA

Quant Time: Nov 07 16:23:41 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M



Abundance

Scan 73 (3.982 min): 10081616.D\data.ms (-64) (-)



#3

Dichlorodifluoromethane (CFC 12)

Concen: 1.54 ng

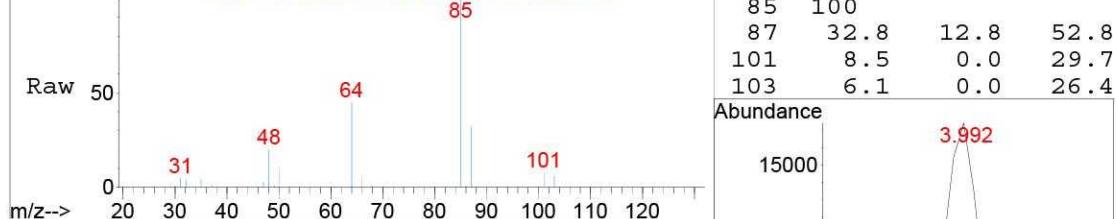
RT: 3.99 min Scan# 75

Delta R.T. 0.005 min

Lab File: 11041629.D

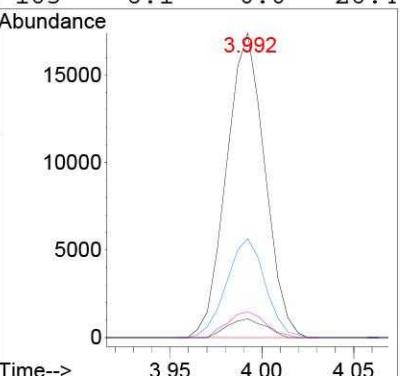
Acq: 4 Nov 2016 21:38

Abundance Scan 75 (3.992 min): 11041629.D\data.ms

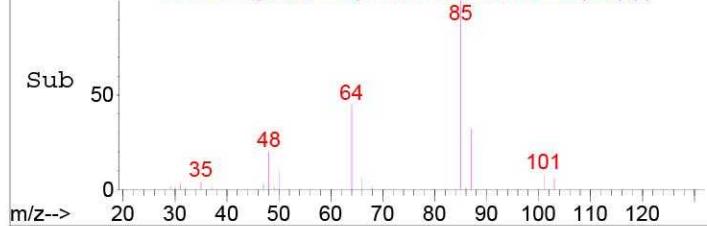


Tgt Ion: 85 Resp: 25266

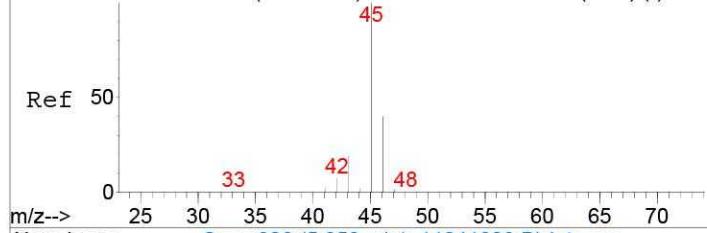
Ion	Ratio	Lower	Upper
85	100		
87	32.8	12.8	52.8
101	8.5	0.0	29.7
103	6.1	0.0	26.4



Abundance Scan 75 (3.992 min): 11041629.D\data.ms (-28) (-)



Abundance Scan 332 (5.390 min): 10081616.D\data.ms (-318) (-)



#10

Ethanol

Concen: 2.18 ng

RT: 5.36 min Scan# 326

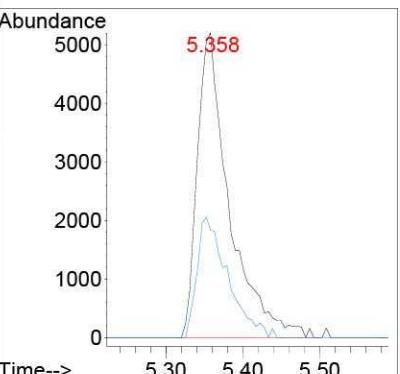
Delta R.T. -0.081 min

Lab File: 11041629.D

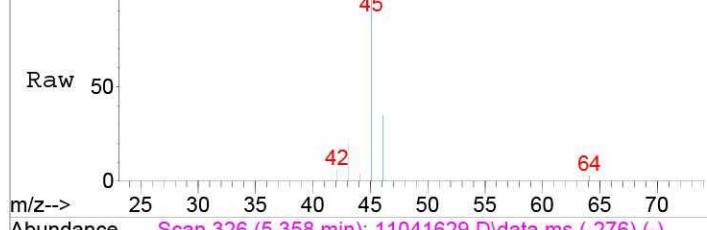
Acq: 4 Nov 2016 21:38

Tgt Ion: 45 Resp: 15006

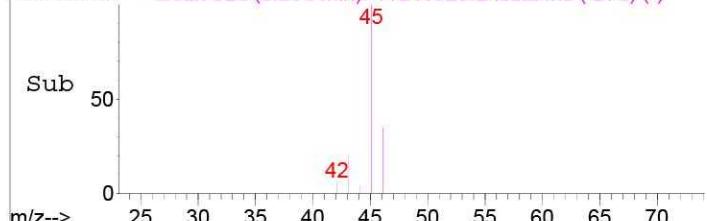
Ion	Ratio	Lower	Upper
45	100		
46	38.0	20.5	60.5

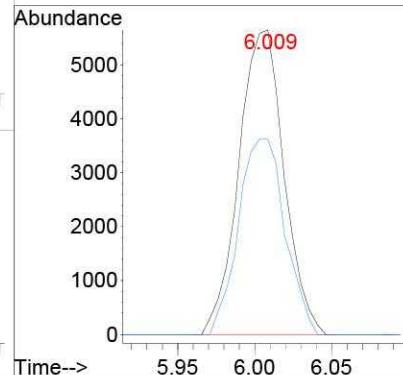
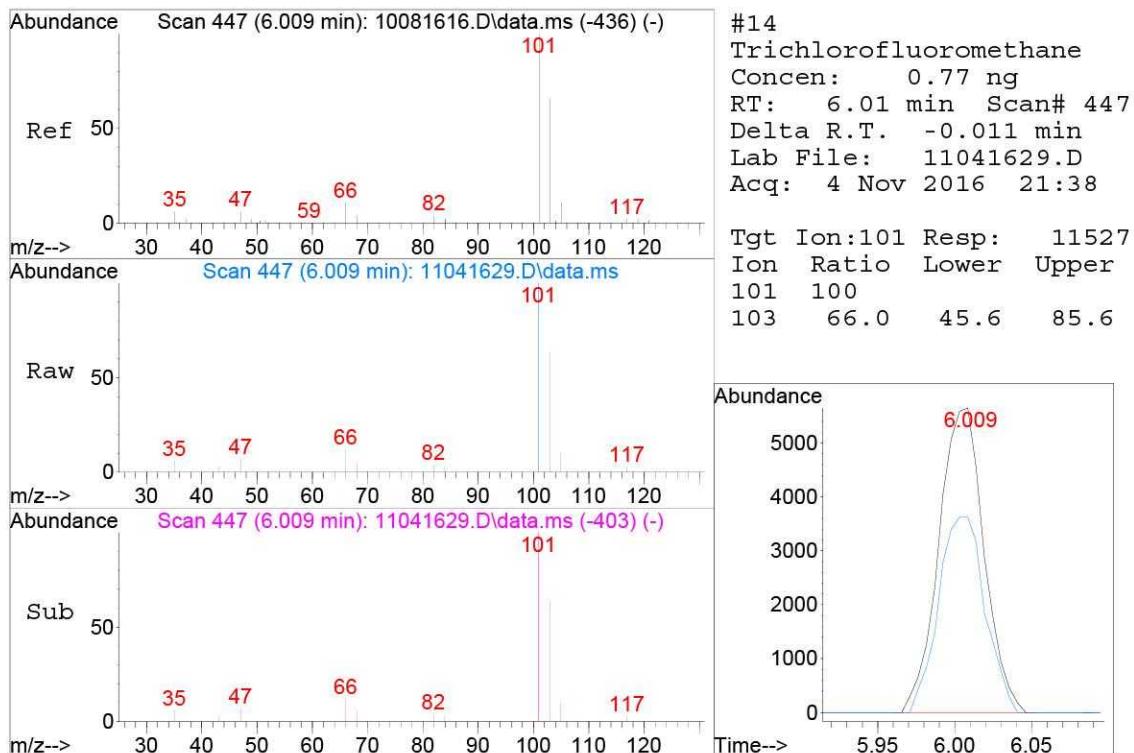
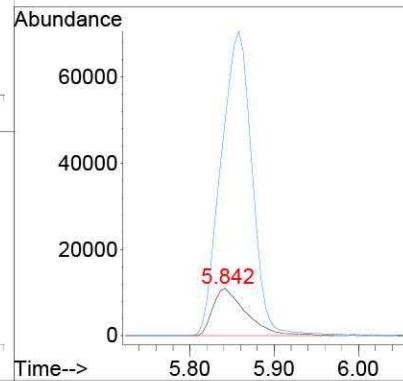
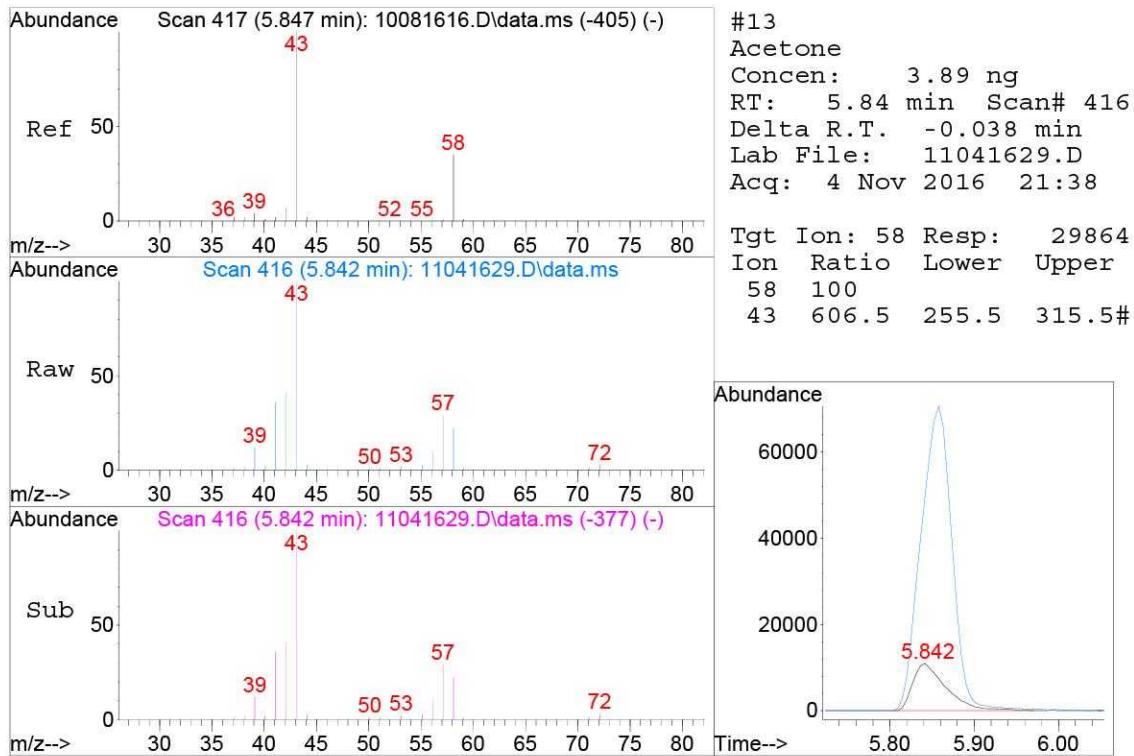


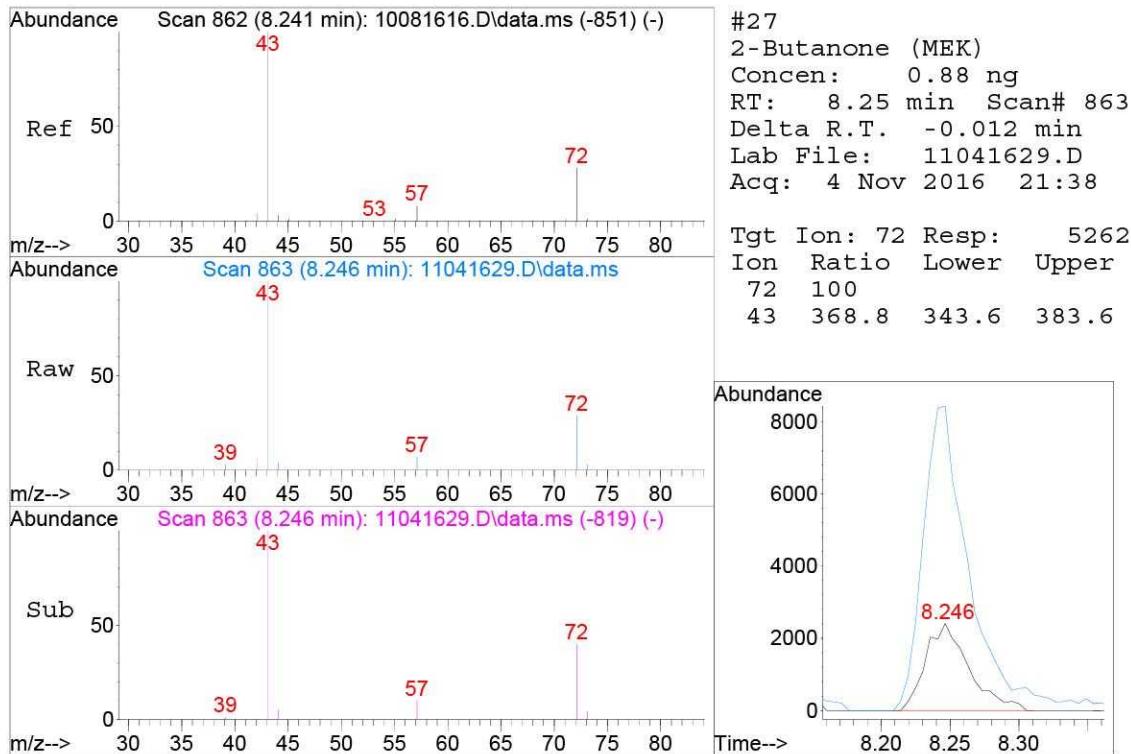
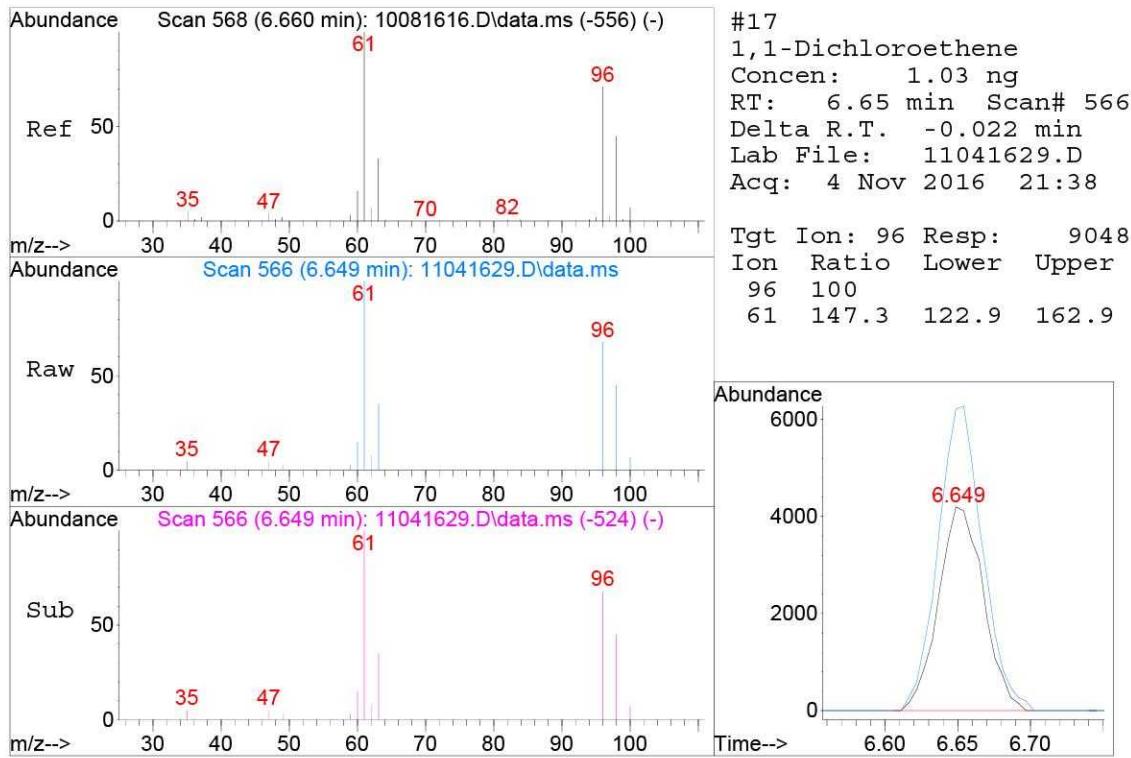
Abundance Scan 326 (5.358 min): 11041629.D\data.ms

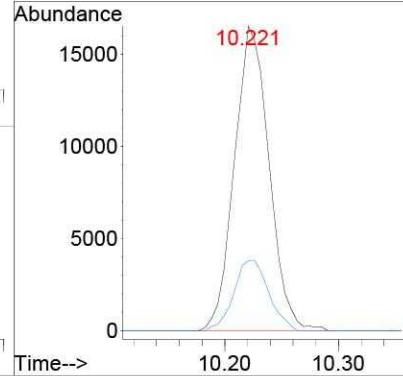
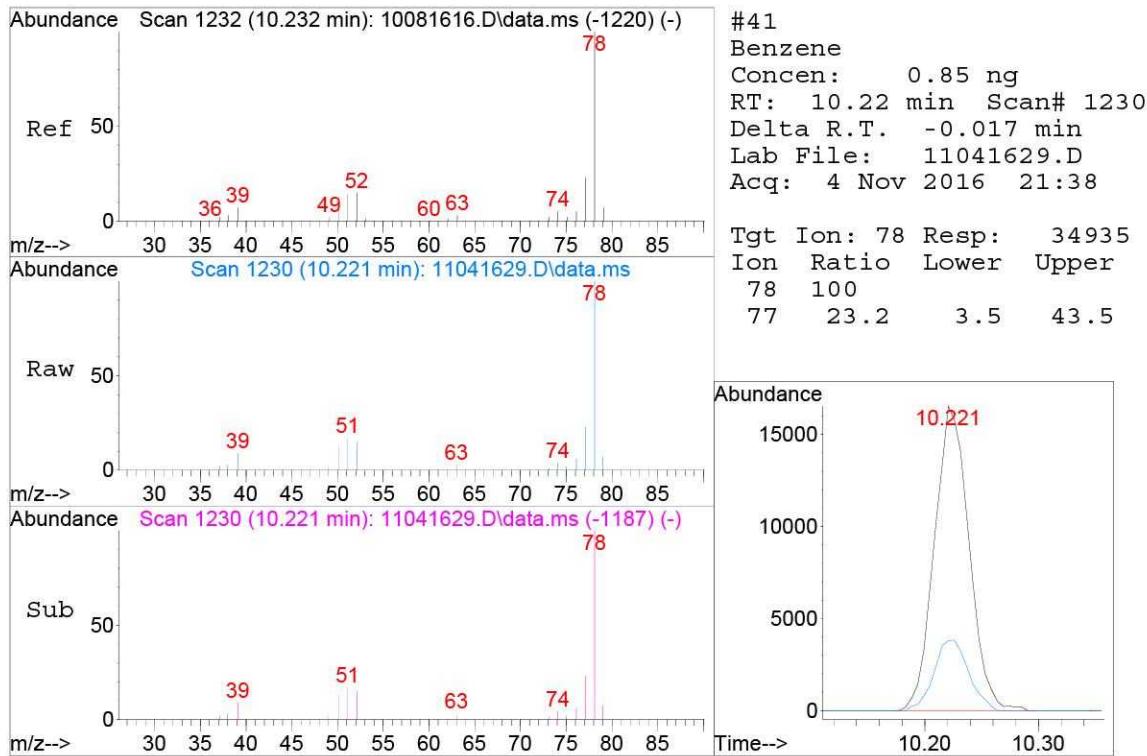
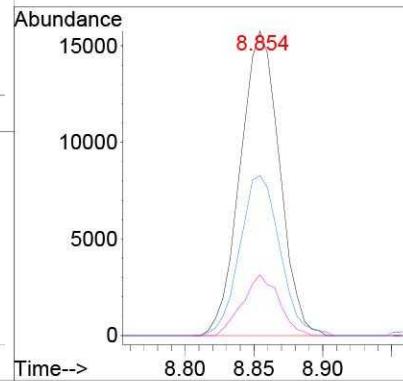
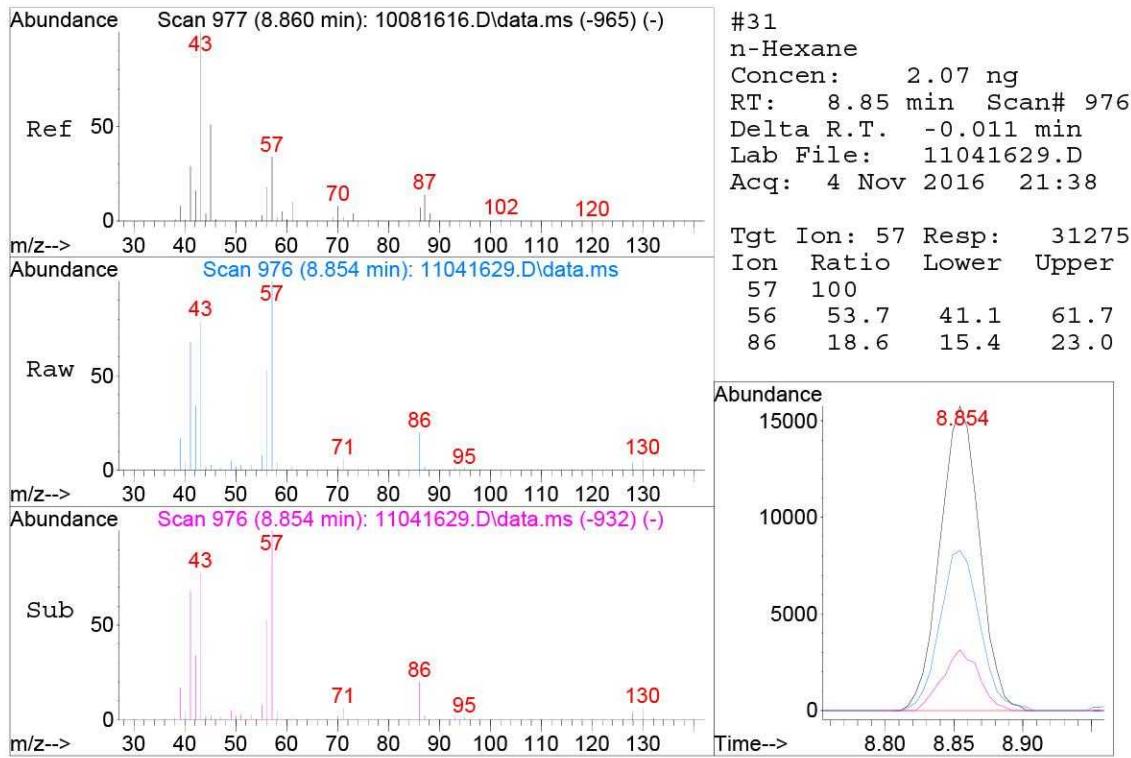


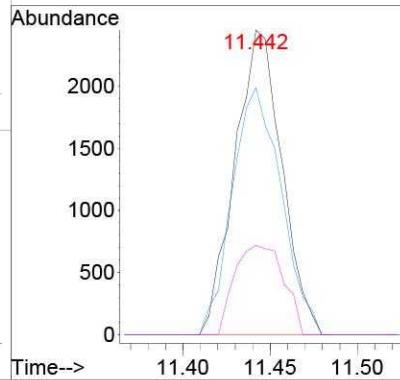
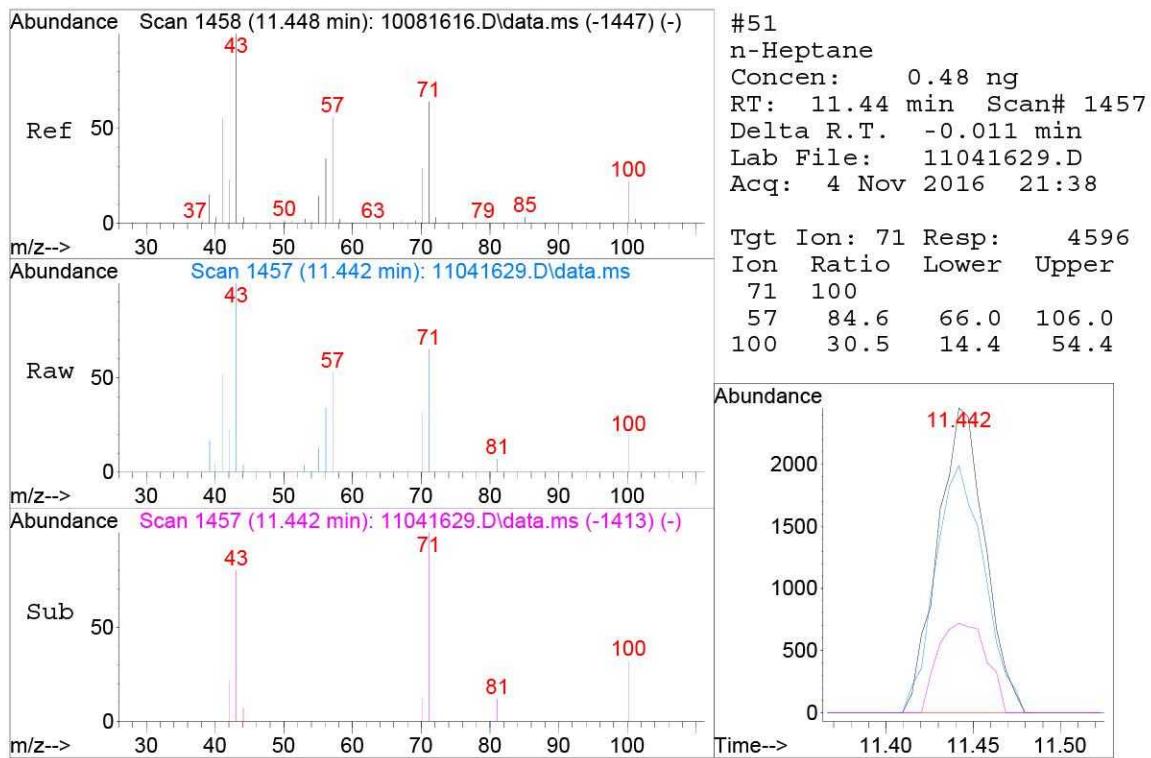
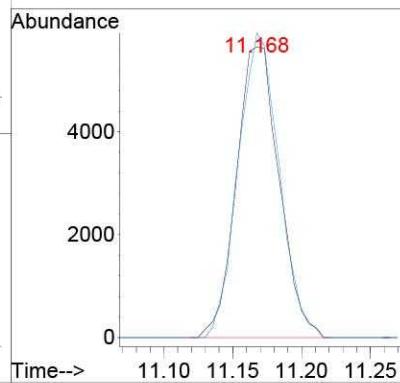
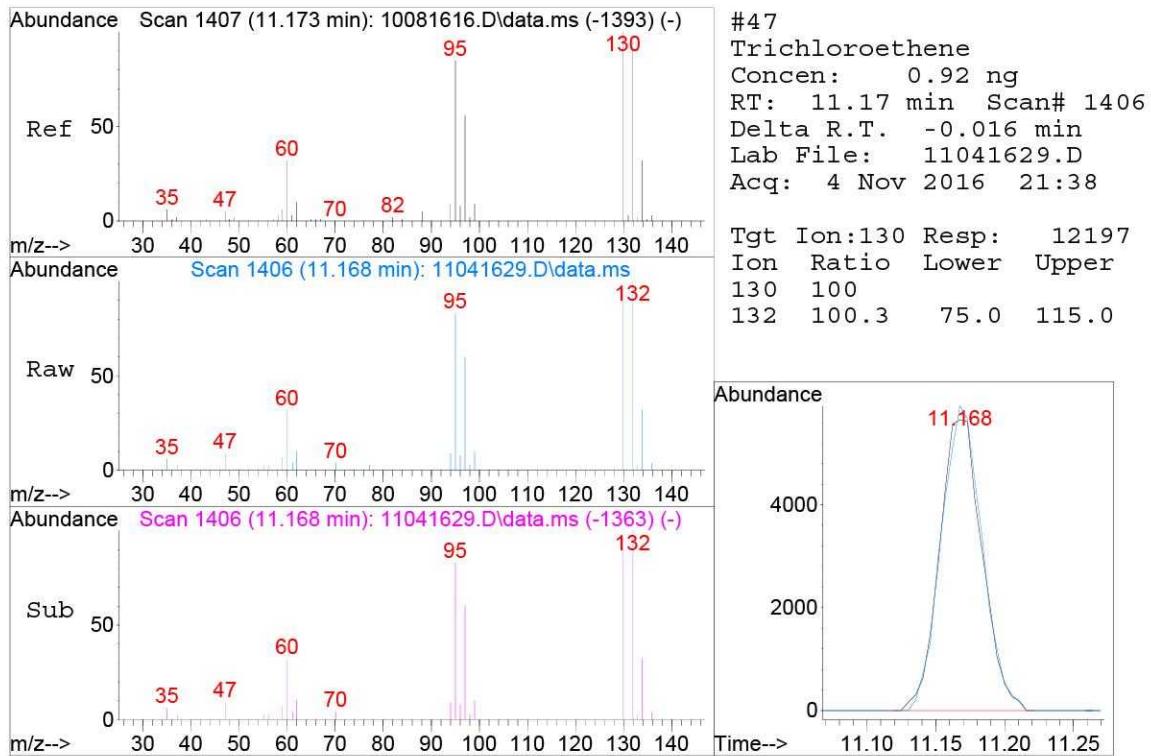
Abundance Scan 326 (5.358 min): 11041629.D\data.ms (-276) (-)

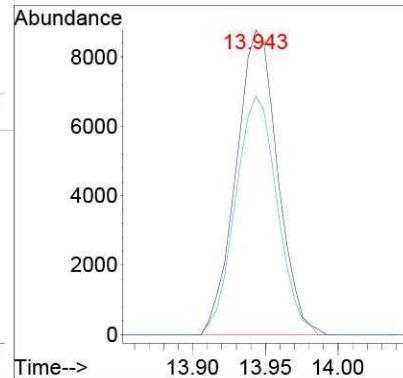
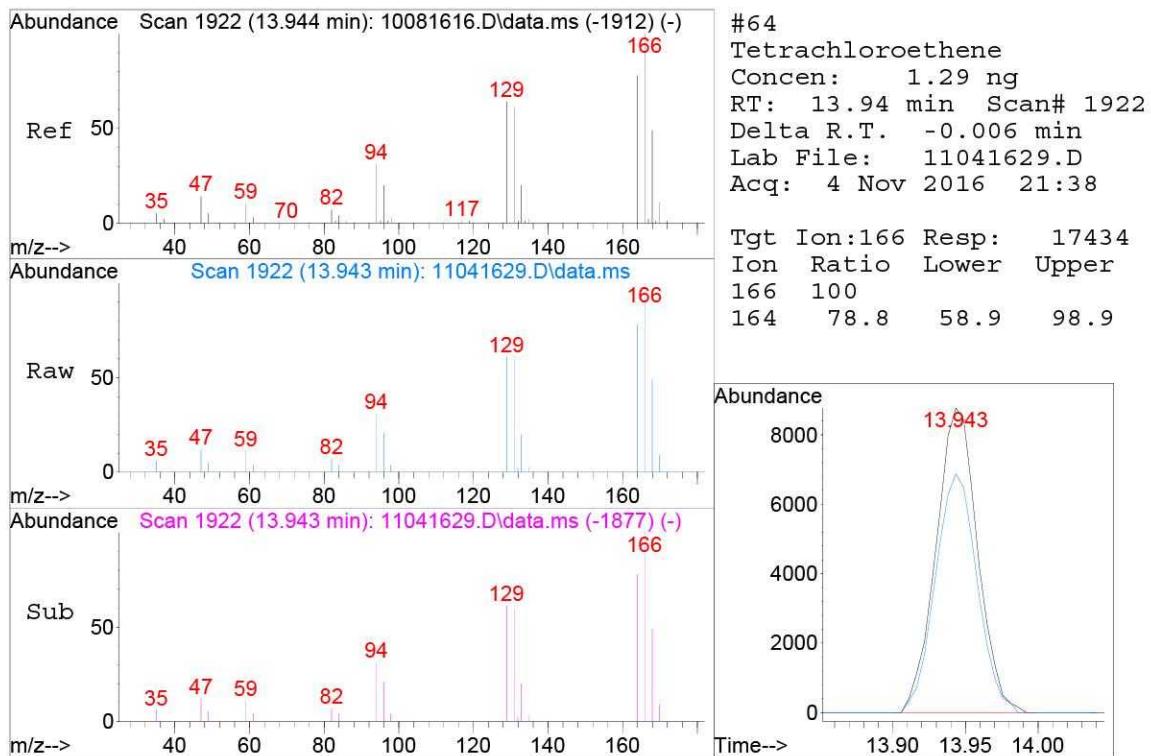
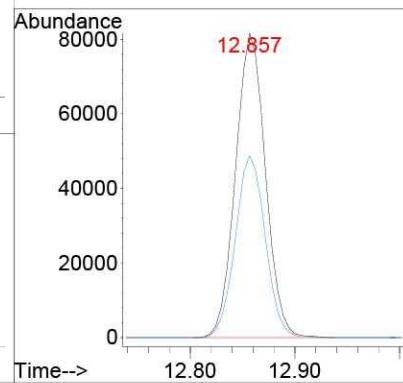
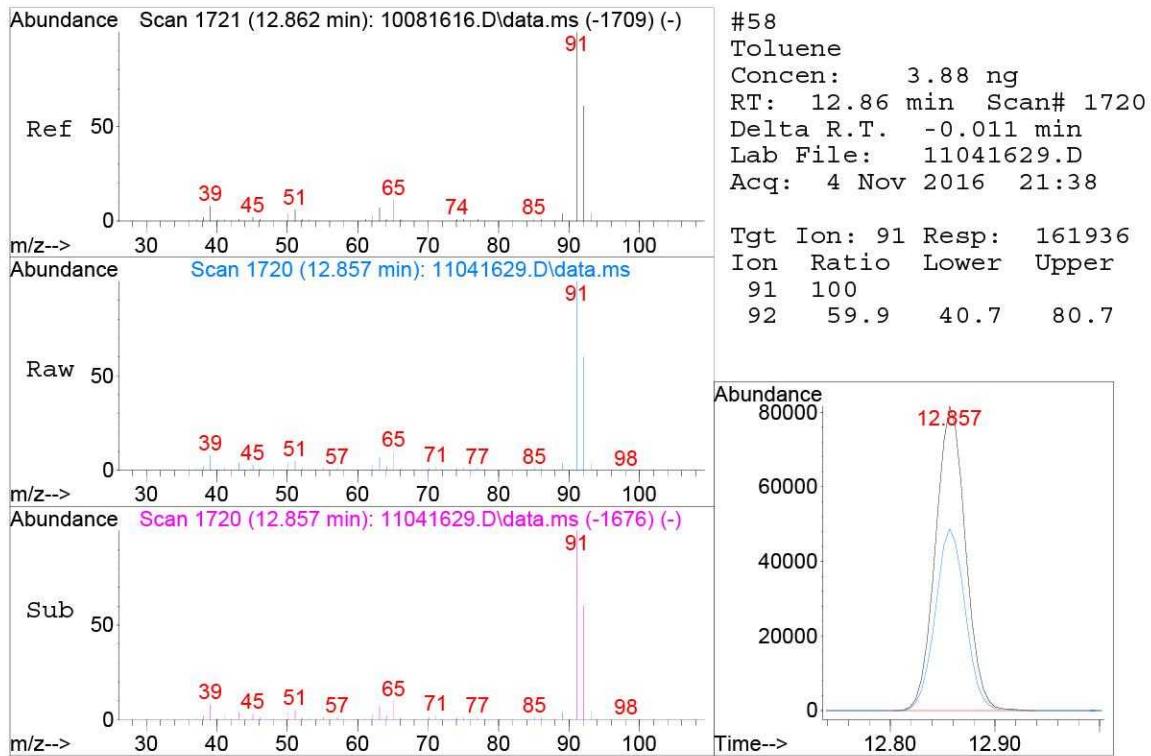


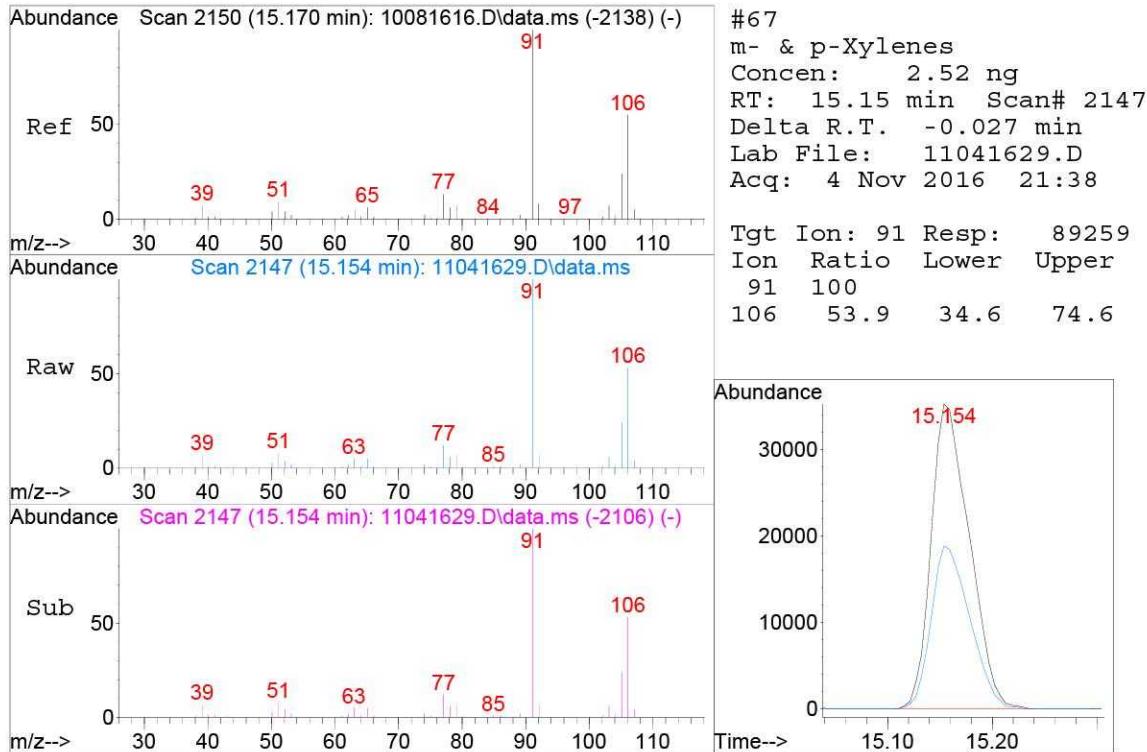
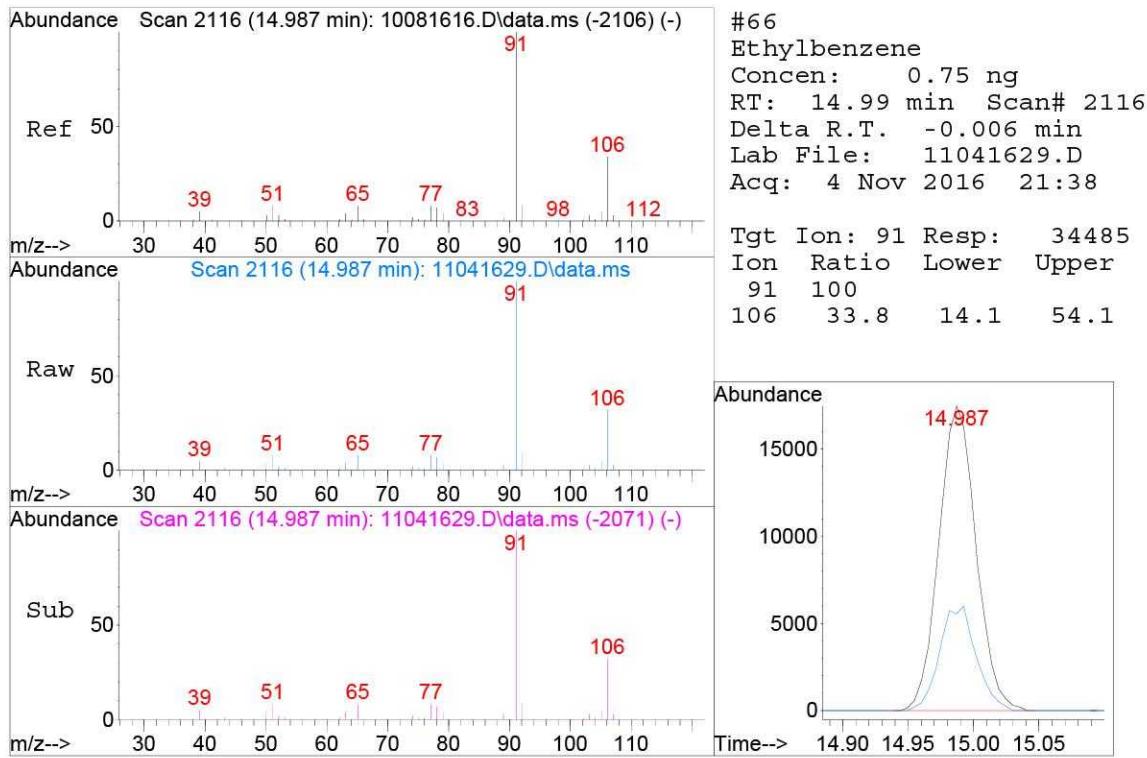


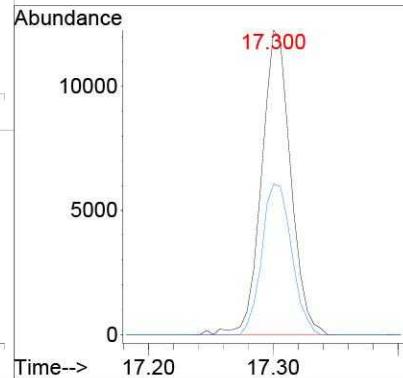
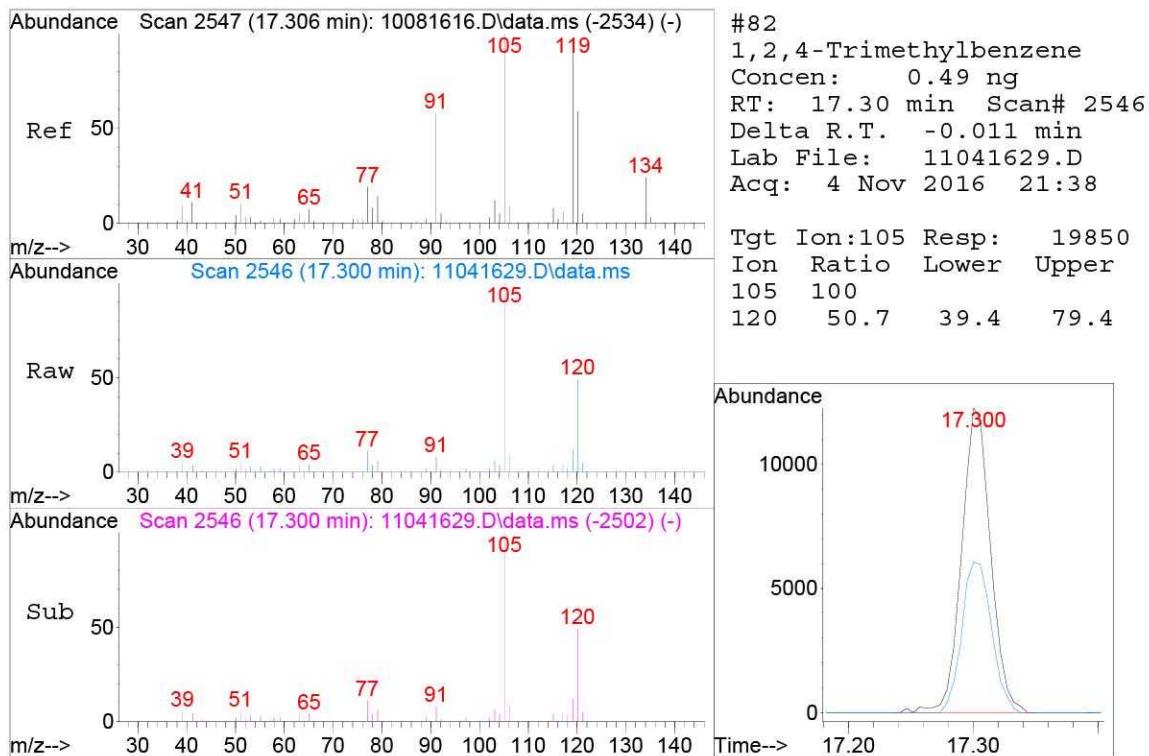
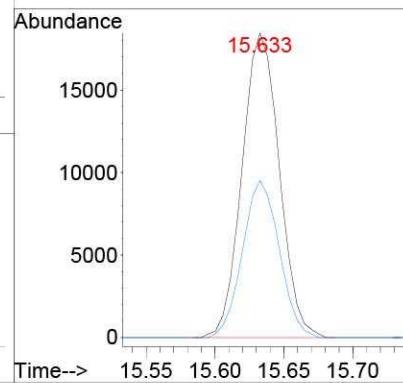
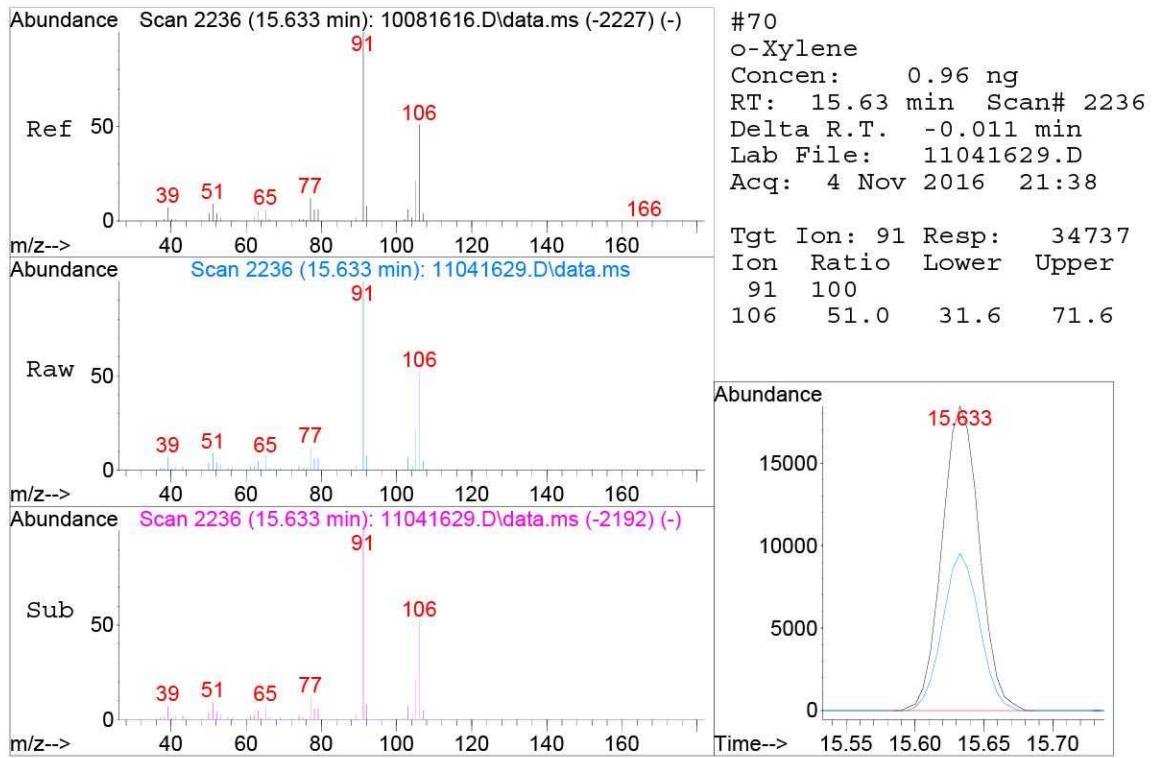












Data File: I:\MS08\Data\2016_11\04\11041604.D
 Acq On : 4 Nov 2016 5:08
 Sample : MB R8110416 1000mL
 Misc : S29-10041602
 ALS Vial : 1 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 04 06:55:39 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane (IS1)	8.78	130	113614	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	10.53	114	559007	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.56	82	215639	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.47	65	143387	12.600	ng	-0.03
Spiked Amount	12.500	Range	70 - 130	Recovery	=	100.80%
57) Toluene-d8 (SS2)	12.76	98	544496	12.691	ng	-0.01
Spiked Amount	12.500	Range	70 - 130	Recovery	=	101.52%
73) Bromofluorobenzene (SS3)	16.07	174	212456	11.985	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	95.84%

Target Compounds

						Qvalue
2) Propene	0.00	42	0	N.D.		
3) Dichlorodifluoromethan...	0.00	85	0	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.40	45	919	0.128	ng	95
11) Acetonitrile	5.63	41	84	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) Acetone	5.88	58	669	N.D.		
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	6.19	45	52	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	0.00	84	0	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	7.07	76	4502	0.127	ng	# 74
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	0.00	72	0	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.		
41) Benzene	10.23	78	482	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	0.00	84	0	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.		

Data File: I:\MS08\Data\2016_11\04\11041604.D
 Acq On : 4 Nov 2016 5:08
 Sample : MB R8110416 1000mL
 Misc : S29-10041602
 ALS Vial : 1 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 04 06:55:39 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

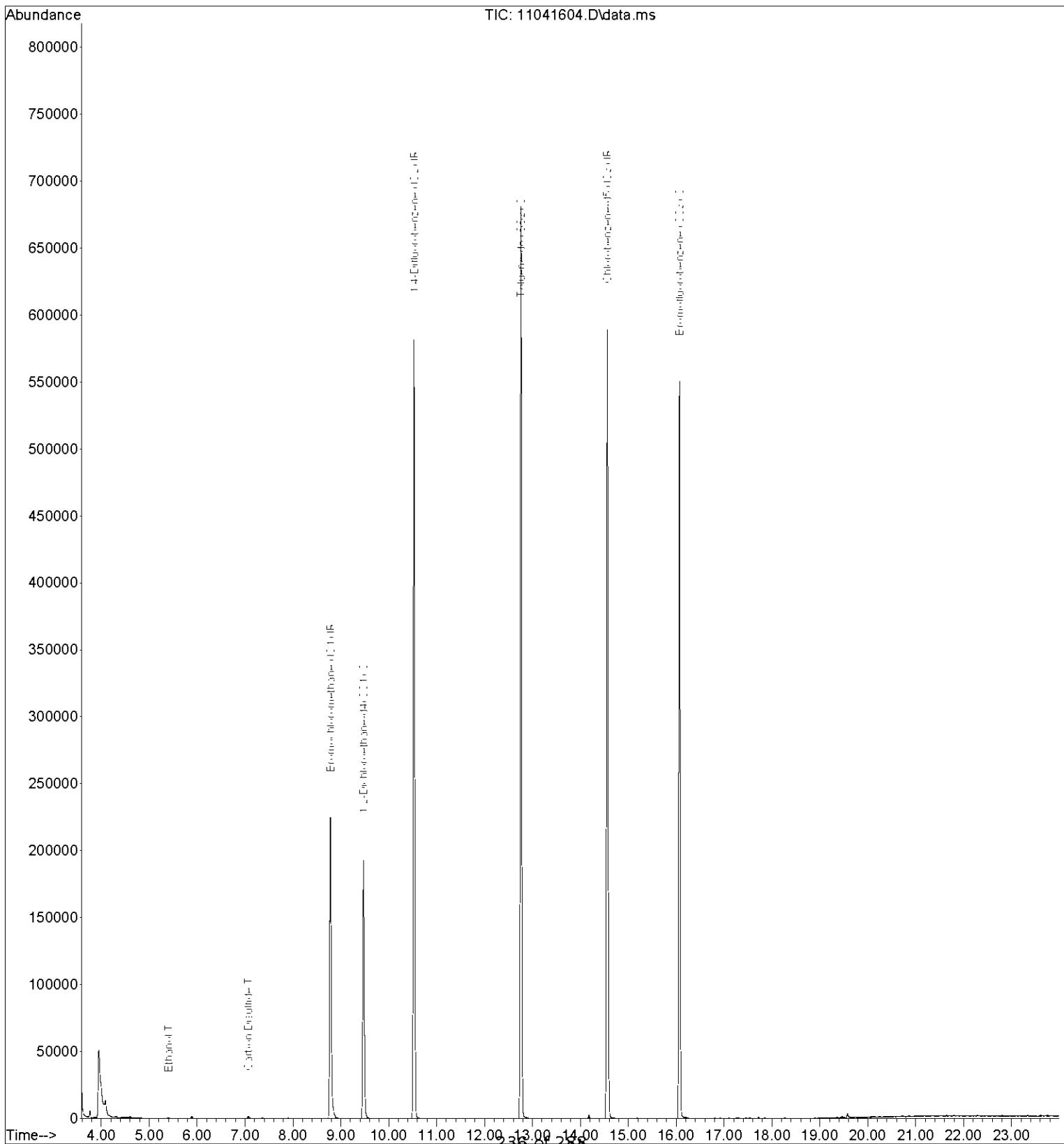
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	0.00	100	0	N.D.		
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.86	91	474	N.D.		
59) 2-Hexanone	0.00	43	0	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	15.19	91	512	N.D.		
67) m- & p-Xylenes	15.19	91	512	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	0.00	91	0	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	16.21	105	535	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	16.71	91	473	N.D.		
77) 3-Ethyltoluene	16.80	105	585	N.D.		
78) 4-Ethyltoluene	16.84	105	681	N.D.		
79) 1,3,5-Trimethylbenzene	16.92	105	459	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.10	105	496	N.D.		
82) 1,2,4-Trimethylbenzene	17.31	105	514	N.D.		
83) n-Decane	0.00	57	0	N.D.		
84) Benzyl Chloride	17.45	91	428	N.D.		
85) 1,3-Dichlorobenzene	17.47	146	515	N.D.		
86) 1,4-Dichlorobenzene	17.52	146	670	N.D.		
87) sec-Butylbenzene	17.57	105	440	N.D.		
88) 4-Isopropyltoluene (p-...)	17.71	119	587	N.D.		
89) 1,2,3-Trimethylbenzene	17.73	105	661	N.D.		
90) 1,2-Dichlorobenzene	17.85	146	811	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D.		
94) 1,2,4-Trichlorobenzene	19.46	180	810	N.D.		
95) Naphthalene	19.58	128	4739	N.D.		
96) n-Dodecane	0.00	57	0	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	0.00	119	0	N.D.		
100) n-Butylbenzene	18.13	91	404	N.D.		

(#= qualifier out of range (m)= manual integration (+)= signals summed

Data File: I:\MS08\Data\2016_11\04\11041604.D
 Acq On : 4 Nov 2016 5:08
 Sample : MB R8110416 1000mL
 Misc : S29-10041602
 ALS Vial : 1 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 04 06:55:39 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-T015 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M



Data File: I:\MS08\Data\2016_11\04\11041605.D
 Acq On : 4 Nov 2016 5:41
 Sample : LCS R8110416 25ng
 Misc : S29-10041602/S29-10271602 (11/25)
 ALS Vial : 1 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 04 06:55:41 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane (IS1)	8.80	130	130760	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	10.54	114	588097	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.56	82	243489	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.49	65	164664	12.573	ng	-0.01
Spiked Amount	12.500	Range	70 - 130	Recovery	=	100.56%
57) Toluene-d8 (SS2)	12.77	98	608535	12.562	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	100.48%
73) Bromofluorobenzene (SS3)	16.07	174	243992	12.189	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	97.52%

Target Compounds

						Qvalue
2) Propene	3.87	42	283054	22.775	ng	99
3) Dichlorodifluoromethan...	3.98	85	491135	24.946	ng	100
4) Chloromethane	4.18	50	328717	25.931	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	313751	25.804	ng	99
6) Vinyl Chloride	4.46	62	391874	27.944	ng	100
7) 1,3-Butadiene	4.64	54	314185	28.997	ng	97
8) Bromomethane	4.95	94	242645	26.307	ng	98
9) Chloroethane	5.16	64	204193	24.430	ng	99
10) Ethanol	5.39	45	975575	118.063	ng	100
11) Acetonitrile	5.58	41	509964	23.851	ng	99
12) Acrolein	5.71	56	174134	25.287	ng	99
13) Acetone	5.84	58	1043041	113.485	ng	99
14) Trichlorofluoromethane	6.01	101	440803	24.717	ng	100
15) 2-Propanol (Isopropanol)	6.14	45	1393813	54.595	ng	100
16) Acrylonitrile	6.34	53	375613	26.852	ng	100
17) 1,1-Dichloroethene	6.65	96	277476	26.283	ng	99
18) 2-Methyl-2-Propanol (t...	6.73	59	1448966	55.152	ng	99
19) Methylene Chloride	6.79	84	281076	25.658	ng	99
20) 3-Chloro-1-propene (Al...	6.91	41	410425	32.288	ng	99
21) Trichlorotrifluoroethane	7.06	151	280319	25.354	ng	98
22) Carbon Disulfide	7.04	76	1012649	24.867	ng	100
23) trans-1,2-Dichloroethene	7.69	61	376844	28.090	ng	98
24) 1,1-Dichloroethane	7.89	63	458929	25.213	ng	100
25) Methyl tert-Butyl Ether	7.93	73	861436	25.611	ng	100
26) Vinyl Acetate	8.03	86	416863	137.459	ng	97
27) 2-Butanone (MEK)	8.24	72	204515	28.688	ng	99
28) cis-1,2-Dichloroethene	8.65	61	356069	25.883	ng	99
29) Diisopropyl Ether	8.84	87	246578	25.206	ng	99
30) Ethyl Acetate	8.84	61	197857	53.510	ng	99
31) n-Hexane	8.85	57	425082	23.451	ng	99
32) Chloroform	8.92	83	456268	25.245	ng	99
34) Tetrahydrofuran (THF)	9.26	72	195749	25.357	ng	99
35) Ethyl tert-Butyl Ether	9.33	87	368925	26.241	ng	100
36) 1,2-Dichloroethane	9.58	62	334052	26.053	ng	100
38) 1,1,1-Trichloroethane	9.82	97	421846	26.100	ng	99
39) Isopropyl Acetate	10.12	61	339434	52.393	ng	99
40) 1-Butanol	10.13	56	608055	61.163	ng	98
41) Benzene	10.23	78	1085863	23.169	ng	100
42) Carbon Tetrachloride	10.37	117	387584	26.747	ng	100
43) Cyclohexane	10.48	84	898602	49.308	ng	99
44) tert-Amyl Methyl Ether	10.75	73	838536	26.142	ng	100
45) 1,2-Dichloropropane	10.96	63	257770	25.042	ng	100
46) Bromodichloromethane	11.12	83	368432	27.786	ng	100
47) Trichloroethene	11.17	130	331053	21.944	ng	98
48) 1,4-Dioxane	11.14	88	244002	27.275	ng	100
49) 2,2,4-Trimethylpentane...	11.22	57	1152298	24.786	ng	99

Data File: I:\MS08\Data\2016_11\04\11041605.D
 Acq On : 4 Nov 2016 5:41
 Sample : LCS R8110416 25ng
 Misc : S29-10041602/S29-10271602 (11/25)
 ALS Vial : 1 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 04 06:55:41 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	11.32	100	268512	54.821	ng	99
51) n-Heptane	11.44	71	280721	25.622	ng	100
52) cis-1,3-Dichloropropene	11.94	75	452195	27.052	ng	100
53) 4-Methyl-2-pentanone	11.96	58	265612	26.090	ng	99
54) trans-1,3-Dichloropropene	12.41	75	421894	29.192	ng	99
55) 1,1,2-Trichloroethane	12.58	97	277187	26.665	ng	99
58) Toluene	12.86	91	1162798	24.452	ng	99
59) 2-Hexanone	13.07	43	623587	27.603	ng	100
60) Dibromochloromethane	13.24	129	353339	28.536	ng	100
61) 1,2-Dibromoethane	13.49	107	321335	27.861	ng	99
62) n-Butyl Acetate	13.66	43	713112	27.810	ng	100
63) n-Octane	13.79	57	236952	25.534	ng	99
64) Tetrachloroethene	13.94	166	379546	24.654	ng	100
65) Chlorobenzene	14.61	112	812430	24.649	ng	99
66) Ethylbenzene	14.99	91	1350018	25.740	ng	99
67) m- & p-Xylenes	15.16	91	2087911	51.778	ng	99
68) Bromoform	15.24	173	327795	29.845	ng	100
69) Styrene	15.52	104	902634	27.654	ng	100
70) o-Xylene	15.63	91	1062043	25.639	ng	98
71) n-Nonane	15.84	43	554754	26.332	ng	99
72) 1,1,2,2-Tetrachloroethane	15.61	83	484244	26.513	ng	99
74) Cumene	16.20	105	1439374	25.597	ng	99
75) alpha-Pinene	16.58	93	737172	25.767	ng	99
76) n-Propylbenzene	16.69	91	1655721	26.022	ng	100
77) 3-Ethyltoluene	16.79	105	1440979	25.974	ng	99
78) 4-Ethyltoluene	16.84	105	1380754	26.041	ng	99
79) 1,3,5-Trimethylbenzene	16.91	105	1185312	25.448	ng	98
80) alpha-Methylstyrene	17.05	118	677388	27.354	ng	98
81) 2-Ethyltoluene	17.09	105	1409759	25.817	ng	99
82) 1,2,4-Trimethylbenzene	17.31	105	1219428	26.496	ng	99
83) n-Decane	17.40	57	599226	26.113	ng	99
84) Benzyl Chloride	17.42	91	1087025	29.680	ng	99
85) 1,3-Dichlorobenzene	17.45	146	761301	25.671	ng	100
86) 1,4-Dichlorobenzene	17.51	146	772250	25.366	ng	99
87) sec-Butylbenzene	17.56	105	1605109	25.917	ng	100
88) 4-Isopropyltoluene (p-...)	17.71	119	1583319	26.233	ng	99
89) 1,2,3-Trimethylbenzene	17.71	105	1242334	26.803	ng	99
90) 1,2-Dichlorobenzene	17.84	146	730313	25.716	ng	100
91) d-Limonene	17.85	68	449620	26.537	ng	99
92) 1,2-Dibromo-3-Chloropr...	18.25	157	284048	27.274	ng	99
93) n-Undecane	18.60	57	630682	25.444	ng	100
94) 1,2,4-Trichlorobenzene	19.46	180	603459	26.221	ng	99
95) Naphthalene	19.57	128	1728247	26.226	ng	100
96) n-Dodecane	19.58	57	606943	24.258	ng	99
97) Hexachlorobutadiene	19.90	225	391256	24.825	ng	100
98) Cyclohexanone	15.31	55	394218	27.096	ng	99
99) tert-Butylbenzene	17.30	119	1245758	25.922	ng	99
100) n-Butylbenzene	18.11	91	1236142	26.583	ng	99

(#= qualifier out of range (m)= manual integration (+)= signals summed)

Data File: I:\MS08\Data\2016_11\04\11041605.D
 Acq On : 4 Nov 2016 5:41
 Sample : LCS R8110416 25ng
 Misc : S29-10041602/S29-10271602 (11/25)
 ALS Vial : 1 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 04 06:55:41 2016

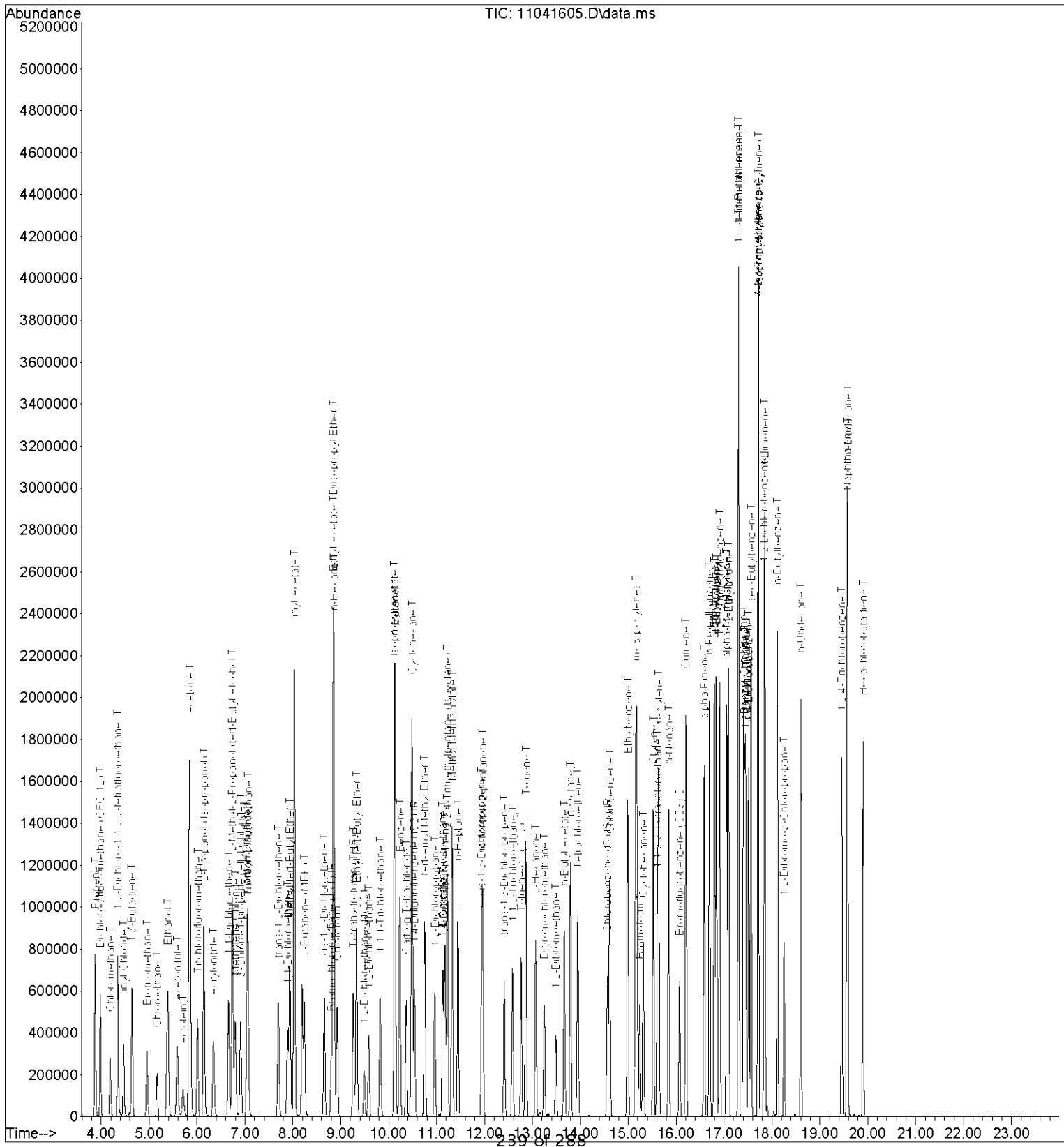
Quant Method : I:\MS08\Methods\R8100816.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Wed Oct 12 15:54:53 2016

Response via : Initial Calibration

DataAcq Meth:TO15.M



Method Path : I:\MS08\Methods\

Method File : R8100816.M

Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Last Update : Wed Oct 12 15:54:53 2016

Response Via : Initial Calibration

Calibration Files
 0.08=10081610.D 0.10=10081611.D 0.20=10081612.D 0.40=10081613.D 1.0 =10081614.D 5.0 =10081615.D 25 =10081616.D

Compound	0.08	0.10	0.20	0.40	1.0	5.0	25	50	100	Avg	%RSD
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	ISTD										
1) IR Bromochloromethane											
2) T Propene	1.466	1.164	1.266	1.132	1.224	1.055	1.107	1.064	1.216	1.188	10.68
3) T Dichlorodifluoromethane	1.893	1.746	2.114	1.973	2.110	1.778	1.863	1.772	1.689	1.882	8.26
4) T Chloromethane	1.066	1.033	1.396	1.325	1.553	1.209	1.329	1.151	0.843	1.212	17.74
5) T 1,2-Dichloro-1...	1.077	1.169	1.321	1.224	1.261	1.075	1.139	1.111	1.084	1.162	7.64
6) T Vinyl Chloride	1.128	1.167	1.470	1.353	1.547	1.332	1.417	1.328	1.322	1.341	9.93
7) T 1,3-Butadiene	1.020	0.736	1.133	0.963	1.117	1.012	1.145	1.101	1.095	1.036	12.40
8) T Bromomethane	0.804	0.721	0.943	0.910	0.992	0.849	0.927	0.908	0.881	0.882	9.17
9) T Chloroethane			0.892	0.829	0.877	0.725	0.786	0.756	0.728	0.799	8.57
10) T Ethanol	1.053	0.663	0.893	0.792	0.848	0.726	0.761	0.711	0.663	0.790	15.93
11) T Acetonitrile	2.567	1.690	2.124	2.160	2.205	1.882	1.999	1.917	1.852	2.044	12.54
12) T Acrolein			0.643	0.709	0.640	0.680	0.652	0.626	0.658	0.69	4.69
13) T Acetone	1.179	1.043	0.934	0.872	0.902	0.768	0.796	0.738	0.675	0.879	18.04
14) T Trichlorofluoromethane	1.667	1.670	1.971	1.756	1.898	1.489	1.630	1.604	1.558	1.705	8.41
15) T Propanol (Is...	2.356	2.006	2.698	2.518	2.819	2.467	2.661	2.481	1.959	2.441	12.07
16) T Acrylonitrile			1.052	1.052	1.265	1.534	1.348	1.440	1.384	1.337	11.34
17) T 1,1-Dichloroethane	0.862	0.871	1.115	1.065	1.128	0.976	1.057	1.021	0.988	1.009	9.46
18) T 2-Methyl-2-Propano...	2.342	2.081	2.741	2.647	2.900	2.549	2.736	2.541	2.067	2.512	11.67
19) T Methylene Chloride	1.053	0.951	1.119	1.068	1.171	0.987	1.060	1.025	0.992	1.047	6.53
20) T 3-Chloro-1-propano...	0.988	0.931	1.044	1.082	1.270	1.237	1.508	1.460	1.415	1.215	17.66
21) T Trichlorotrifluoroethane	0.977	1.090	1.170	1.062	1.172	0.994	1.045	1.012	0.990	1.057	7.02
22) T Carbon Disulfide			4.422	4.416	3.612	3.816	3.632	3.460	3.893	10.86	
23) T trans-1,2-Dichloroethane	0.967	0.918	1.395	1.357	1.529	1.315	1.409	1.358	1.294	1.282	15.94
24) T 1,1-Dichloroethane	1.659	1.658	1.963	1.746	1.958	1.666	1.731	1.676	1.603	1.740	7.58
25) T Methyl tert-Bu...	3.102	3.031	3.568	3.356	3.556	3.075	3.222	3.080	2.949	3.215	7.09
26) T Vinyl Acetate			0.246	0.301	0.289	0.312	0.303	0.289	0.290	0.290	8.08
27) T 2-Butanone (MEK)	0.495	0.560	0.622	0.797	0.728	0.772	0.753	0.726	0.682	16.05	
28) T cis-1,2-Dichloroethane	1.228	1.223	1.425	1.326	1.504	1.261	1.342	1.287	1.240	1.315	7.31
29) T Dilisopropyl Ether	0.924	0.874	1.016	1.035	1.078	0.877	0.906	0.873	0.833	0.935	9.21
30) T Ethyl Acetate			0.337	0.331	0.408	0.359	0.367	0.351	0.321	0.353	8.13
31) T n-Hexane	1.911	1.817	2.009	1.868	1.973	1.631	1.529	1.488	1.369	1.733	13.45
32) T Chloroform	1.631	1.543	1.972	1.784	1.951	1.627	1.739	1.681	1.623	1.728	8.67
33) S 1,2-Dichloroethane	1.248	1.244	1.241	1.254	1.275	1.257	1.246	1.251	1.251	1.252	0.80
34) T Tetrahydrofuran	0.723	0.656	0.827	0.755	0.815	0.706	0.744	0.721	0.695	0.738	7.47
35) T Ethyl tert-Butyl ether	1.234	1.138	1.464	1.399	1.529	1.302	1.384	1.346	1.300	1.344	8.77
36) T 1,2-Dichloroethane	1.153	1.125	1.313	1.253	1.391	1.189	1.245	1.206	1.156	1.226	6.95
37) IR 1,4-Difluorobenzene			0.314	0.310	0.375	0.352	0.388	0.327	0.340	0.325	0.344
38) T 1,1,1-Trichloroethane	0.125	0.114	0.145	0.153	0.157	0.139	0.146	0.136	0.125	0.138	7.86
39) T Isopropyl Acetate			0.153	0.106	0.199	0.204	0.243	0.270	0.250	0.234	0.211
40) T 1-Butanol			0.721	0.695	0.738	0.744	0.771	0.721	0.695	0.738	24.87
41) T Benzene	1.295	1.046	1.068	0.989	1.055	0.874	0.919	0.880	0.839	0.996	14.16
42) T Carbon Tetrachloride	0.265	0.296	0.333	0.306	0.294	0.326	0.313	0.303	0.308	0.308	7.30

Method Path : I:\MS08\Methods\

Method File : R8100816.M

Title	Path	Method	TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
43) T	Cyclohexane	0.398	0.361
44) T	tert-Amyl Meth...	0.650	0.650
45) T	1,2-Dichloropro...	0.221	0.207
46) T	Bromodichlorom...	0.241	0.225
47) T	Trichloroethene	0.467	0.448
48) T	1,4-Dioxane	0.166	0.116
49) T	2,2,4-Trimethyl...	1.002	0.941
50) T	Methyl Methacry...	0	0.087
51) T	n-Heptane	0.205	0.228
52) T	cis-1,3-Dichloro...	0	0.345
53) T	4-Methyl-2-pen...	0	0.205
54) T	trans-1,3-Dichlor...	0.162	0.183
55) T	1,1,2-Trichloro...	0.255	0.231
56) IR	Chlorobenzene-d5	(...)	(...)
57) S	Toluene-d8 (SS2)	2.509	2.542
58) T	Toluene	2.729	2.525
59) T	2-Hexanone	1	0.025
60) T	Dibromochlorom...	0.489	0.540
61) T	1,2-Dibromoethane	0.465	0.435
62) T	n-Butyl Acetate	1	1.190
63) T	n-Octane	0.483	0.419
64) T	Tetrachloroethene	0.755	0.854
65) T	Chlorobenzene	1.746	1.667
66) T	Ethylnbenzene	2.718	2.873
67) T	m- & p-Xylenes	2.043	1.976
68) T	Bromoform	0.387	0.408
69) T	Styrene	1.517	1.250
70) T	o-Xylene	2.090	1.970
71) T	n-Nonane	1.011	0.966
72) T	1,1,2,2-Tetrac...	0.815	0.772
73) S	BromoFluoroben...	1.018	1.024
74) T	Cumene	2.977	2.749
75) T	alpha-Pinene	1.415	1.414
76) T	n-Propylbenzene	3.222	3.092
77) T	3-Ethyltoluene	2.759	2.446
78) T	4-Ethyltoluene	2.627	2.622
79) T	1,3,5-Trimethyl...	2.385	2.238
80) T	alpha-Methylst...	1.071	0.962
81) T	2-Ethyltoluene	2.797	2.539
82) T	1,2,4-Trimethyl...	2.237	2.090
83) T	n-Decane	1.026	1.041
84) T	Benzyl Chloride	1.513	1.380
85) T	1,3-Dichlorobore...	1.558	1.434
86) T	1,4-Dichlorobore...	3.110	2.902
87) T	sec-Butylbenzene	2.749	2.779
88) T	4-Isopropyltol...	3.779	3.375
89) T	1,2,3-Trimethyl...	2.205	2.117
90) T	1,2-Dichlorobore...	1.425	1.256
91) T	d-Limonene	0.770	0.742
92) T	1,2-Dibromo-3...	0	0.474
93) T	n-Undecane	1.315	1.273
94) T	1,2,4-Trichloro...	1.077	0.959

Method Path : I:\MS08\Methods\
Method File : R8100816.M

Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
95) T Naphthalene 3.668 2.459 3.101 3.060 3.802 3.461 3.863 3.633 3.402 3.383 13.20
96) T n-Dodecane 1.289 1.296 1.449 1.313 1.359 1.232 1.053 1.284 9.53
97) T Hexachlorobutane 0.830 0.707 0.844 0.815 0.881 0.760 0.846 0.804 0.795 0.809 6.36
98) T Cyclohexanone 0.620 0.614 0.791 0.730 0.841 0.774 0.834 0.780 0.738 0.747 11.05
99) T tert-Butylbenzene 2.354 2.268 2.683 2.561 2.767 2.327 2.540 2.408 2.296 2.467 7.25
100) T n-Butylbenzene 2.085 2.019 2.551 2.449 2.765 2.410 2.577 2.398 2.230 2.387 10.06

(#) = Out of Range

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID: S29-10061601	4ng/L Std. ID: S29-10051615	20ng/L Std. ID: S29-10051609	200ng/L Std. ID: S29-10051603	Dilution Factors:	5	50	250	1000	Working STD Conc.(ng/L):	4	4	4	4	20	200	200	200	200
Compounds	Source Std.	Primary Working Standards				Injection (L):	0.020	0.025	0.050	0.100	0.050	0.025	0.125	0.25	0.50			
	mg/m³	200ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.08ng	0.1ng	0.2ng	0.4ng	1ng	5ng	25ng	50ng	100ng			
Propene	1.036	207.2	20.72	4.144	1.036		0.08288	0.1036	0.2072	0.4144	1.036	5.180	25.900	51.80	103.6			
Dichlorodifluoromethane	1.047	209.4	20.94	4.188	1.047		0.08376	0.1047	0.2094	0.4188	1.047	5.235	26.175	52.35	104.7			
Chloromethane	1.005	201.0	20.10	4.020	1.005		0.08040	0.1005	0.2010	0.4020	1.005	5.025	25.125	50.25	100.5			
Freon-114	1.005	201.0	20.10	4.020	1.005		0.08184	0.1023	0.2046	0.4092	1.023	5.115	25.575	51.15	102.3			
Vinyl Chloride	1.023	204.6	20.46	4.092	1.023		0.08456	0.1057	0.2114	0.4228	1.057	5.285	26.425	52.85	105.7			
1,3-Butadiene	1.057	211.4	21.14	4.228	1.057		0.07944	0.0993	0.1986	0.3972	0.993	4.965	24.825	49.65	99.3			
Bromomethane	0.993	198.6	19.86	3.972	0.993		0.08072	0.1009	0.2018	0.4036	1.009	5.045	25.225	50.45	100.9			
Chloroethane	1.009	201.8	20.18	4.036	1.009		0.41656	0.5207	1.0414	2.0828	5.207	26.035	130.175	260.35	520.7			
Ethanol	5.207	1041.4	104.14	20.828	5.207		0.08368	0.1046	0.2092	0.4184	1.046	5.230	26.150	52.30	104.6			
Acetonitrile	1.046	209.2	20.92	4.184	1.046		0.08328	0.1041	0.2082	0.4164	1.041	5.205	26.025	52.05	104.1			
Acrolein	1.041	208.2	20.82	4.164	1.041		0.42504	0.5313	1.0626	2.1252	5.313	26.565	132.825	265.65	531.3			
Acetone	5.313	1062.6	106.26	21.252	5.313		0.08392	0.1049	0.2098	0.4196	1.049	5.245	26.225	52.45	104.9			
Trichlorofluoromethane	1.049	209.8	20.98	4.196	1.049		0.16840	0.2105	0.4210	0.8420	2.105	10.525	52.625	105.25	210.5			
Isopropanol	2.105	421.0	42.10	8.420	2.105		0.08440	0.1055	0.2110	0.4220	1.055	5.275	26.375	52.75	105.5			
Acrylonitrile	1.055	211.0	21.10	4.220	1.055		0.08472	0.1059	0.2118	0.4236	1.059	5.295	26.475	52.95	105.9			
1,1-Dichloroethene	1.059	211.8	21.18	4.236	1.059		0.16912	0.2114	0.4228	0.8456	2.114	10.570	52.850	105.70	211.4			
tert-Butanol	2.114	422.8	42.28	8.456	2.114		0.08456	0.1057	0.2114	0.4228	1.057	5.285	26.425	52.85	105.7			
Methylene Chloride	1.057	211.4	21.14	4.228	1.057		0.08416	0.1052	0.2104	0.4208	1.052	5.260	26.300	52.60	105.2			
Allyl Chloride	1.052	210.4	21.04	4.208	1.052		0.08392	0.1049	0.2098	0.4196	1.049	5.245	26.225	52.45	104.9			
Trichlorotrifluoroethane	1.049	209.8	20.98	4.196	1.049		0.08488	0.1061	0.2122	0.4244	1.061	5.305	26.525	53.05	106.1			
Carbon Disulfide	1.061	212.2	21.22	4.244	1.061		0.08536	0.1067	0.2134	0.4268	1.067	5.335	26.675	53.35	106.7			
trans-1,2-Dichloroethene	1.067	213.4	21.34	4.268	1.067		0.08160	0.1020	0.2040	0.4080	1.020	5.100	25.500	51.00	102.0			
1,1-Dichloroethane	1.020	204.0	20.40	4.080	1.020		0.08528	0.1066	0.2132	0.4264	1.066	5.330	26.650	53.30	106.6			
Methyl tert-Butyl Ether	1.066	213.2	21.32	4.264	1.066		0.42120	0.5265	1.0530	2.1060	5.265	26.325	131.625	263.25	526.5			
Vinyl Acetate	5.265	1053.0	105.30	21.060	5.265		0.08392	0.1049	0.2098	0.4196	1.049	5.245	26.225	52.45	104.9			
2-Butanone	1.049	209.8	20.98	4.196	1.049		0.08488	0.1061	0.2122	0.4244	1.061	5.305	26.600	53.20	106.4			
cis-1,2-Dichloroethene	1.064	212.8	21.28	4.256	1.064		0.08496	0.1064	0.2128	0.4256	1.064	5.320	26.600	53.20	106.4			
Diisopropyl Ether	1.062	212.4	21.24	4.248	1.062		0.08496	0.1062	0.2124	0.4248	1.062	5.310	26.550	53.10	106.2			
Ethyl Acetate	2.129	425.8	42.58	8.516	2.129		0.17032	0.2129	0.4258	0.8516	2.129	10.645	53.225	106.45	212.9			
n-Hexane	1.063	212.6	21.26	4.252	1.063		0.08504	0.1063	0.2126	0.4252	1.063	5.315	26.575	53.15	106.3			
Chloroform	1.058	211.6	21.16	4.232	1.058		0.08464	0.1058	0.2116	0.4232	1.058	5.290	26.450	52.90	105.8			
Tetrahydrofuran	1.062	212.4	21.24	4.248	1.062		0.08496	0.1062	0.2124	0.4248	1.062	5.310	26.550	53.10	106.2			
Ethyl tert-Butyl Ether	1.057	211.4	21.14	4.228	1.057		0.08456	0.1057	0.2114	0.4228	1.057	5.285	26.425	52.85	105.7			
1,2-Dichloroethane	1.052	210.4	21.04	4.208	1.052		0.08416	0.1052	0.2104	0.4208	1.052	5.260	26.300	52.60	105.2			
1,1,1-Trichloroethane	1.074	214.8	21.48	4.296	1.074		0.08592	0.1074	0.2148	0.4296	1.074	5.370	26.850	53.70	107.4			
Isopropyl Acetate	2.104	420.8	42.08	8.416	2.104		0.16832	0.2104	0.4208	0.8416	2.104	10.520	52.600	105.20	210.4			
1-Butanol	2.105	421.0	42.10	8.420	2.105		0.16840	0.2105	0.4210	0.8420	2.105	10.525	52.625	105.25	210.5			
Benzene	1.052	210.4	21.04	4.208	1.052		0.08416	0.1052	0.2104	0.4208	1.052	5.260	26.300	52.60	105.2			
Carbon Tetrachloride	1.055	211.0	21.10	4.220	1.055		0.08440	0.1055	0.2110	0.4220	1.055	5.275	26.375	52.75	105.5			
Cyclohexane	2.130	426.0	42.60	8.520	2.130		0.17040	0.2130	0.4260	0.8520	2.130	10.650	53.250	106.50	213.0			
tert-Amyl Methyl Ether	1.054	210.8	21.08	4.216	1.054		0.08432	0.1054	0.2108	0.4216	1.054	5.270	26.350	52.70	105.4			
1,2-Dichloropropane	1.062	212.4	21.24	4.248	1.062		0.08496	0.1062	0.2124	0.4248	1.062	5.310	26.550	53.10	106.2			
Bromodichloromethane	1.066	213.2	21.32	4.264	1.066		0.08528	0.1066	0.2132	0.4264	1.066	5.330	26.650	53.30	106.6			
Trichloroethene	1.060	212.0	21.20	4.240	1.060		0.08480	0.1060	0.2120	0.4240	1.060	5.300	26.500	53.00	106.0			
1,4-Dioxane	1.062	212.4	21.24	4.248	1.062		0.08496	0.1062	0.2124	0.4248	1.062	5.310	26.550	53.10	106.2			
Isooctane	1.059	211.8	21.18	4.236	1.059		0.08472	0.1059	0.2118	0.4236	1.059	5.295	26.475	52.95	105.9			
Methyl Methacrylate	2.110	422.0	42.20	8.440	2.110		0.16880	0.2110	0.4220	0.8440	2.110	10.550	52.750	105.50	211.0			
n-Heptane	1.062	212.4	21.24	4.248	1.062		0.08496	0.1062	0.2124	0.4248	1.062	5.310	26.550	53.10	106.2			
cis-1,3-Dichloropropene	1.116	223.2	22.32	4.464	1.116		0.08928	0.1116	0.2232	0.4464	1.116	5.580	27.900	55.80	111.6			
4-Methyl-2-pentanone	1.058	211.6	21.16	4.232	1.058		0.08464	0.1058	0.2116	0.4232	1.058	5.290	26.450	52.90	105.8			
trans-1,3-Dichloropropene	1.064	212.8	21.28	4.256	1.064		0.08512	0.1064	0.2128	0.4256	1.064	5.320	26.600	53.20	106.4			
1,1,2-Trichloroethane	1.061	212.2	21.22	4.244	1.061		0.08488	0.1061	0.2122	0.4244	1.061	5.305	26.525	53.05	106.1			
Toluene	1.053	210.6	21.06	4.212	1.053		0.08424	0.1053	0.2106	0.4212	1.053	5.265	26.325	52.65	105.3			
2-Hexanone	1.061	212.2	21.22	4.244	1.061		0.08488	0.1061	0.2122	0.4244	1.061	5.305	26.525	53.05	106.1			

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID: S29-10061601	4ng/L Std. ID: S29-10051615	20ng/L Std. ID: S29-10051609	200ng/L Std. ID: S29-10051603	Dilution Factors:	5	50	250	1000	Working STD Conc.(ng/L):	4	4	4	4	20	200	200	200	200
Compounds	Source Std.	Primary Working Standards				Injection (L):	0.020	0.025	0.050	0.100	0.050	0.025	0.125	0.25	0.50			
	mg/m³	200ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.08ng	0.1ng	0.2ng	0.4ng	1ng	5ng	25ng	50ng	100ng			
Dibromochloromethane	1.062	212.4	21.24	4.248	1.062		0.08496	0.1062	0.2124	0.4248	1.062	5.310	26.550	53.10	106.2			
1,2-Dibromoethane	1.056	211.2	21.12	4.224	1.056		0.08448	0.1056	0.2112	0.4224	1.056	5.280	26.400	52.80	105.6			
n-Butyl Acetate	1.064	212.8	21.28	4.256	1.064		0.08512	0.1064	0.2128	0.4256	1.064	5.320	26.600	53.20	106.4			
n-Octane	1.057	211.4	21.14	4.228	1.057		0.08456	0.1057	0.2114	0.4228	1.057	5.285	26.425	52.85	105.7			
Tetrachloroethene	1.061	212.2	21.22	4.244	1.061		0.08488	0.1061	0.2122	0.4244	1.061	5.305	26.525	53.05	106.1			
Chlorobenzene	1.061	212.2	21.22	4.244	1.061		0.08440	0.1055	0.2110	0.4220	1.055	5.275	26.375	52.75	105.5			
Ethylbenzene	1.055	211.0	21.10	4.220	1.055		0.16984	0.2123	0.4246	0.8492	2.123	10.615	53.075	106.15	212.3			
m-&p-Xylene	2.123	424.6	42.46	8.492	2.123		0.08504	0.1063	0.2126	0.4252	1.063	5.315	26.575	53.15	106.3			
Bromoform	1.063	212.6	21.26	4.252	1.063		0.08488	0.1061	0.2122	0.4244	1.061	5.305	26.525	53.05	106.1			
Styrene	1.061	212.2	21.22	4.244	1.061		0.08432	0.1054	0.2108	0.4216	1.054	5.270	26.350	52.70	105.4			
o-Xylene	1.054	210.8	21.08	4.216	1.054		0.08432	0.1054	0.2108	0.4216	1.054	5.270	26.350	52.70	105.4			
n-Nonane	1.054	210.8	21.08	4.216	1.054		0.08448	0.1056	0.2112	0.4224	1.056	5.280	26.400	52.80	105.6			
1,1,2,2-Tetrachloroethane	1.056	211.2	21.12	4.224	1.056		0.08400	0.1050	0.2100	0.4200	1.050	5.250	26.250	52.50	105.0			
Cumene	1.050	210.0	21.00	4.200	1.050		0.08352	0.1044	0.2088	0.4176	1.044	5.220	26.100	52.20	104.4			
alpha-Pinene	1.044	208.8	20.88	4.176	1.044		0.08504	0.1063	0.2126	0.4252	1.063	5.315	26.575	53.15	106.3			
n-Propylbenzene	1.063	212.6	21.26	4.252	1.063		0.08400	0.1050	0.2100	0.4200	1.050	5.250	26.250	52.50	105.0			
3-Ethyltoluene	1.050	210.0	21.00	4.200	1.050		0.08392	0.1049	0.2098	0.4196	1.049	5.245	26.225	52.45	104.9			
4-Ethyltoluene	1.049	209.8	20.98	4.196	1.049		0.08392	0.1049	0.2098	0.4196	1.049	5.245	26.225	52.45	104.9			
1,3,5-Trimethylbenzene	1.049	209.8	20.98	4.196	1.049		0.08400	0.1050	0.2100	0.4200	1.050	5.250	26.250	52.50	105.0			
alpha-Methylstyrene	1.050	210.0	21.00	4.200	1.050		0.08496	0.1062	0.2124	0.4248	1.062	5.310	26.550	53.10	106.2			
2-Ethyltoluene	1.062	212.4	21.24	4.248	1.062		0.08416	0.1052	0.2104	0.4208	1.052	5.260	26.300	52.60	105.2			
1,2,4-Trimethylbenzene	1.052	210.4	21.04	4.208	1.052		0.08424	0.1053	0.2106	0.4212	1.053	5.265	26.325	52.65	105.3			
n-Decane	1.053	210.6	21.06	4.212	1.053		0.08488	0.1061	0.2122	0.4244	1.061	5.305	26.525	53.05	106.1			
Benzyl Chloride	1.061	212.2	21.22	4.244	1.061		0.08464	0.1058	0.2116	0.4232	1.058	5.290	26.450	52.90	105.8			
1,3-Dichlorobenzene	1.058	211.6	21.16	4.232	1.058		0.08464	0.1058	0.2116	0.4232	1.058	5.290	26.450	52.90	105.8			
1,4-Dichlorobenzene	1.058	211.6	21.16	4.232	1.058		0.08432	0.1054	0.2108	0.4216	1.054	5.270	26.350	52.70	105.4			
sec-Butylbenzene	1.054	210.8	21.08	4.216	1.054		0.08216	0.1027	0.2054	0.4108	1.027	5.135	25.675	51.35	102.7			
p-Isopropyltoluene	1.027	205.4	20.54	4.108	1.027		0.08464	0.1058	0.2116	0.4232	1.058	5.290	26.450	52.90	105.8			
1,2,3-Trimethylbenzene	1.027	205.4	20.54	4.108	1.027		0.08040	0.1005	0.2010	0.4020	1.005	5.025	25.125	50.25	100.5			
1,2-Dichlorobenzene	1.058	211.6	21.16	4.232	1.058		0.08424	0.1053	0.2106	0.4212	1.053	5.265	26.325	52.65	105.3			
d-Limonene	1.005	201.0	20.10	4.020	1.005		0.08432	0.1054	0.2108	0.4216	1.054	5.270	26.350	52.70	105.4			
1,2-Dibromo-3-chloropropane	1.053	210.6	21.06	4.212	1.053		0.08216	0.1027	0.2054	0.4108	1.027	5.135	25.675	51.35	102.7			
n-Undecane	1.054	210.8	21.08	4.216	1.054		0.08464	0.1058	0.2116	0.4232	1.058	5.290	26.450	52.90	105.8			
1,2,4-Trichlorobenzene	1.043	208.6	20.86	4.172	1.043		0.08360	0.1045	0.2090	0.4180	1.045	5.225	26.125	52.25	104.5			
Naphthalene	1.083	216.6	21.66	4.332	1.083		0.08472	0.1059	0.2118	0.4236	1.059	5.295	26.475	52.95	105.9			
n-Dodecane	1.045	209.0	20.90	4.180	1.045		0.08520	0.1065	0.2130	0.4260	1.065	5.325	26.625	53.25	106.5			
Hexachloro-1,3-butadiene	1.059	211.8	21.18	4.236	1.059		0.08448	0.1056	0.2112	0.4224	1.056	5.280	26.400	52.80	105.6			
Methacrylonitrile	1.065	213.0	21.30	4.260	1.065		0.08408	0.1051	0.2102	0.4204	1.051	5.255	26.275	52.55	105.1			
Cyclohexanone	1.056	211.2	21.12	4.224	1.056		0.08448	0.1056	0.2112	0.4224	1.056	5.280	26.400	52.80	105.6			
tert-Butylbenzene	1.051	210.2	21.02	4.204	1.051													
n-Butylbenzene	1.056	211.2	21.12	4.224	1.056													

Calibration Status Report Instrument #MS08

Method : I:\MS08\Methods\R8100816.M (RTE Integrator)
 Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 Last Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration

#	ID	Conc	ISTD	Path\File
		Conc		
1	0.08	0	13	I:\MS08\Data\2016_10\08\10081610.D
2	0.10	0	13	I:\MS08\Data\2016_10\08\10081611.D
3	0.20	0	13	I:\MS08\Data\2016_10\08\10081612.D
4	0.40	0	13	I:\MS08\Data\2016_10\08\10081613.D
5	1.0	1	13	I:\MS08\Data\2016_10\08\10081614.D
6	5.0	5	13	I:\MS08\Data\2016_10\08\10081615.D
7	25	26	13	I:\MS08\Data\2016_10\08\10081616.D
8	50	52	13	I:\MS08\Data\2016_10\08\10081617.D
9	100	104	13	I:\MS08\Data\2016_10\08\10081618.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.08	Oct 12 15:53 2016	Oct 10 08:50 2016	8 Oct 2016 13:54
2	0.10	Oct 12 15:53 2016	Oct 10 08:50 2016	8 Oct 2016 14:27
3	0.20	Oct 12 15:53 2016	Oct 10 08:50 2016	8 Oct 2016 14:59
4	0.40	Oct 12 15:53 2016	Oct 10 08:50 2016	8 Oct 2016 15:32
5	1.0	Oct 12 15:54 2016	Oct 10 08:50 2016	8 Oct 2016 16:04
6	5.0	Oct 12 15:54 2016	Oct 10 08:50 2016	8 Oct 2016 16:36
7	25	Oct 12 15:54 2016	Oct 10 08:50 2016	8 Oct 2016 17:09
8	50	Oct 12 15:54 2016	Oct 10 08:50 2016	8 Oct 2016 17:41
9	100	Oct 12 15:54 2016	Oct 10 08:50 2016	8 Oct 2016 18:13

R8100816.M

Wed Oct 12 16:01:43 2016

Data File: I:\MS08\Data\2016_10\08\10081610.D
 Acq On : 8 Oct 2016 13:54
 Sample : 0.08ng TO-15 ICAL Standard
 Misc : S29-09081602/S29-10061601 (11/4)
 ALS Vial : 13 Sample Multiplier: 1

Operator: WA

Quant Time: Oct 10 08:50:35 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Mon Oct 10 08:49:43 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane (IS1)	8.78	130	124812	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	10.53	114	576938	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	14.56	82	236852	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.47	65	155796	9.339	ng	-0.02
Spiked Amount	12.500	Range	70 - 130	Recovery	=	74.72%
57) Toluene-d8 (SS2)	12.76	98	594342	12.184	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	97.44%
73) Bromofluorobenzene (SS3)	16.07	174	241017	19.177	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	153.44%#

Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	3.92	42	1213	0.073	ng	# 87
3) Dichlorodifluoromethan...	4.01	85	1583	0.053	ng	# 85
4) Chloromethane	4.23	50	856	0.035	ng	# 42
5) 1,2-Dichloro-1,1,2,2-t...	4.36	135	865	0.054	ng	# 43
6) Vinyl Chloride	4.51	62	922	0.034	ng	# 43
7) 1,3-Butadiene	4.67	54	861	0.053	ng	# 61
8) Bromomethane	4.98	94	638	0.042	ng	96
9) Chloroethane	5.20	64	646	0.060	ng	# 43
10) Ethanol	5.38	45	4379	0.428	ng	99
11) Acetonitrile	5.64	41	2145	0.080	ng	92
12) Acrolein	5.72	56	309	0.033	ng	77
13) Acetone	5.86	58	5002	0.400	ng	92
14) Trichlorofluoromethane	6.01	101	1397	0.057	ng	90
15) 2-Propanol (Isopropanol)	6.16	45	3961	0.105	ng	94
16) Acrylonitrile	6.40	53	732	0.038	ng	# 18
17) 1,1-Dichloroethene	6.67	96	729	0.052	ng	89
18) 2-Methyl-2-Propanol (t...	6.77	59	3954	0.098	ng	77
19) Methylene Chloride	6.79	84	889	0.058	ng	95
20) 3-Chloro-1-propene (Al...	6.92	41	830	0.035	ng	# 38
21) Trichlorotrifluoroethane	7.06	151	819	0.071	ng	92
22) Carbon Disulfide	7.07	76	5532	0.103	ng	# 74
23) trans-1,2-Dichloroethene	7.70	61	824	0.039	ng	95
24) 1,1-Dichloroethane	7.88	63	1352	0.051	ng	# 43
25) Methyl tert-Butyl Ether	7.97	73	2641	0.057	ng	88
26) Vinyl Acetate	8.04	86	571	0.158	ng	# 1
27) 2-Butanone (MEK)	0.00	72	0	N.D.		
28) cis-1,2-Dichloroethene	8.65	61	1044	0.051	ng	93
29) Diisopropyl Ether	8.86	87	784	0.060	ng	# 94
30) Ethyl Acetate	8.65	61	1044	0.196	ng	# 9
31) n-Hexane	8.86	57	1623	0.064	ng	# 76
32) Chloroform	8.90	83	1378	0.054	ng	98
34) Tetrahydrofuran (THF)	9.30	72	613	0.057	ng	# 80
35) Ethyl tert-Butyl Ether	9.34	87	1042	0.061	ng	89
36) 1,2-Dichloroethane	9.58	62	969	0.048	ng	# 43
38) 1,1,1-Trichloroethane	9.81	97	1247	0.059	ng	# 75
39) Isopropyl Acetate	10.15	61	970	0.108	ng	# 83
40) 1-Butanol	10.18	56	1186	0.072	ng	93
41) Benzene	10.22	78	5031	0.077	ng	95
42) Carbon Tetrachloride	10.36	117	1032	0.056	ng	94
43) Cyclohexane	10.47	84	3133	0.144	ng	90
44) tert-Amyl Methyl Ether	10.76	73	2531	0.059	ng	91
45) 1,2-Dichloropropane	10.96	63	866	0.063	ng	77
46) Bromodichloromethane	11.12	83	948	0.050	ng	94
47) Trichloroethene	11.17	130	1827	0.129	ng	94
48) 1,4-Dioxane	11.18	88	651	0.057	ng	# 19
49) 2,2,4-Trimethylpentane...	11.22	57	3918	0.067	ng	96

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Data File: I:\MS08\Data\2016_10\08\10081610.D
 Acq On : 8 Oct 2016 13:54
 Sample : 0.08ng TO-15 ICAL Standard
 Misc : S29-09081602/S29-10061601 (11/4)
 ALS Vial : 13 Sample Multiplier: 1

Operator: WA

Quant Time: Oct 10 08:50:35 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Mon Oct 10 08:49:43 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
50) Methyl Methacrylate	0.00	100	0	N.D.		
51) n-Heptane	11.44	71	802	0.057	ng	# 82
52) cis-1,3-Dichloropropene	11.96	75	969	0.042	ng	# 42
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	12.44	75	575	0.027	ng	# 43
55) 1,1,2-Trichloroethane	12.59	97	635	0.047	ng	95
58) Toluene	12.86	91	4356	0.072	ng	91
59) 2-Hexanone	13.12	43	862	0.027	ng	# 21
60) Dibromochloromethane	13.25	129	787	0.051	ng	97
61) 1,2-Dibromoethane	13.50	107	744	0.049	ng	92
62) n-Butyl Acetate	13.70	43	1655	0.048	ng	# 68
63) n-Octane	13.79	57	774	0.060	ng	91
64) Tetrachloroethene	13.94	166	1214	0.089	ng	97
65) Chlorobenzene	14.61	112	2808	0.076	ng	98
66) Ethylbenzene	15.00	91	4346	0.068	ng	91
67) m- & p-Xylenes	15.17	91	6574	0.131	ng	95
68) Bromoform	15.25	173	624	0.053	ng	# 29
69) Styrene	15.54	104	2440	0.061	ng	92
70) o-Xylene	15.63	91	3339	0.066	ng	95
71) n-Nonane	15.84	43	1616	0.058	ng	93
72) 1,1,2,2-Tetrachloroethane	15.61	83	1305	0.052	ng	89
74) Cumene	16.21	105	4739	0.076	ng	96
75) alpha-Pinene	16.58	93	2240	0.068	ng	67
76) n-Propylbenzene	16.70	91	5192	0.067	ng	# 91
77) 3-Ethyltoluene	16.80	105	4392	0.069	ng	98
78) 4-Ethyltoluene	16.84	105	4177	0.071	ng	98
79) 1,3,5-Trimethylbenzene	16.91	105	3792	0.073	ng	99
80) alpha-Methylstyrene	17.06	118	1705	0.062	ng	92
81) 2-Ethyltoluene	17.09	105	4502	0.074	ng	97
82) 1,2,4-Trimethylbenzene	17.31	105	3568	0.069	ng	100
83) n-Decane	17.40	57	1638	0.055	ng	88
84) Benzyl Chloride	17.44	91	1638	0.034	ng	# 51
85) 1,3-Dichlorobenzene	17.46	146	2426	0.084	ng	97
86) 1,4-Dichlorobenzene	17.52	146	2499	0.085	ng	95
87) sec-Butylbenzene	17.56	105	4969	0.071	ng	100
88) 4-Isopropyltoluene (p-...)	17.71	119	4279	0.067	ng	98
89) 1,2,3-Trimethylbenzene	17.71	105	3433	0.066	ng	96
90) 1,2-Dichlorobenzene	17.84	146	2286	0.083	ng	99
91) d-Limonene	17.85	68	1173	0.049	ng	99
92) 1,2-Dibromo-3-Chloropr...	18.26	157	535	0.054	ng	# 64
93) n-Undecane	18.60	57	1346	0.042	ng	# 78
94) 1,2,4-Trichlorobenzene	19.47	180	1702	0.086	ng	93
95) Naphthalene	19.58	128	6021	0.096	ng	90
96) n-Dodecane	19.58	57	798	0.027	ng	# 28
97) Hexachlorobutadiene	19.90	225	1333	0.115	ng	85
98) Cyclohexanone	15.33	55	992	0.046	ng	88
99) tert-Butylbenzene	17.30	119	3751	0.076	ng	96
100) n-Butylbenzene	18.12	91	3338	0.057	ng	99

(#= qualifier out of range (m) = manual integration (+) = signals summed

Data File: I:\MS08\Data\2016_10\08\10081610
Acq On : 8 Oct 2016 13:54
Sample : 0.08ng TO-15 ICAL Standard
Misc : S29-09081602/S29-10061601 (11/4
ALS Vial : 13 Sample Multiplier: 1

Operator: WA

Quant Time: Oct 10 08:50:35 2016

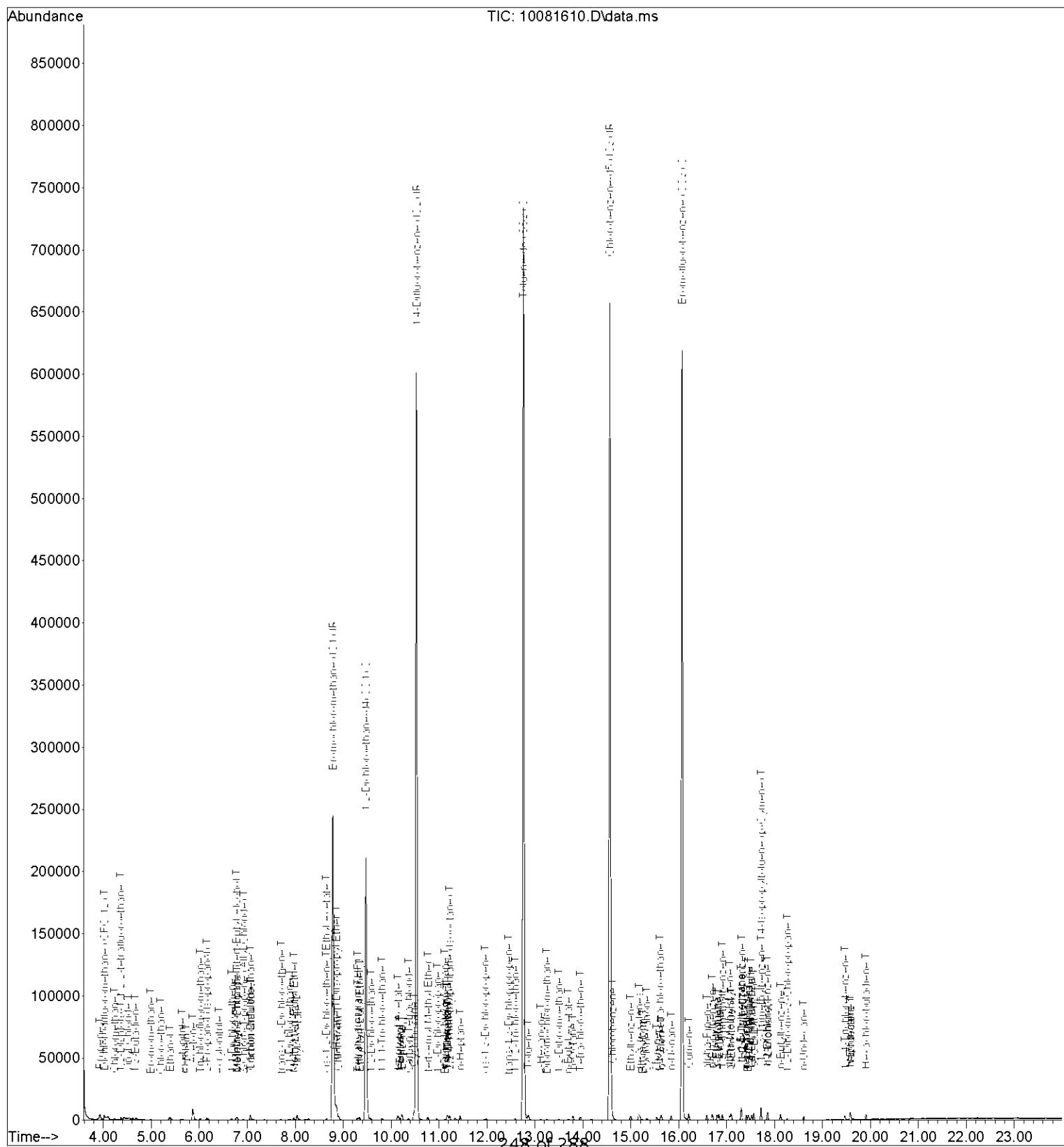
Quant Method : I:\MS08\Methods\R8100816.M

Quant Title : EPA TO-15 per SOP VOA-T015 (CASS TO-15/GC-MS)

Last Update : Mon Oct 10 08:49:43 2016

Response via : Initial Calibration

DataAcq Meth:TO15, M



Data File: I:\MS08\Data\2016_10\08\10081611.D
 Acq On : 8 Oct 2016 14:27
 Sample : 0.10ng TO-15 ICAL Standard
 Misc : S29-09081602/S29-10061601 (11/4)
 ALS Vial : 13 Sample Multiplier: 1

Operator: WA

Quant Time: Oct 10 08:50:37 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Mon Oct 10 08:49:43 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane (IS1)	8.78	130	127462	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	10.53	114	584991	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	14.56	82	238105	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.47	65	158502	9.303	ng	-0.02
Spiked Amount	12.500	Range	70 - 130	Recovery	=	74.40%
57) Toluene-d8 (SS2)	12.76	98	605334	12.345	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	98.72%
73) Bromofluorobenzene (SS3)	16.07	174	243895	19.303	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	154.40%#

Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	3.92	42	1230	0.073	ng	92
3) Dichlorodifluoromethan...	4.02	85	1864	0.061	ng	# 89
4) Chloromethane	4.24	50	1059	0.042	ng	# 42
5) 1,2-Dichloro-1,1,2,2-t...	4.37	135	1198	0.073	ng	# 43
6) Vinyl Chloride	4.51	62	1217	0.044	ng	# 43
7) 1,3-Butadiene	4.68	54	793	0.048	ng	# 52
8) Bromomethane	5.00	94	730	0.047	ng	95
9) Chloroethane	5.21	64	737	0.067	ng	# 43
10) Ethanol	5.39	45	3519	0.337	ng	88
11) Acetonitrile	5.65	41	1803	0.065	ng	96
12) Acrolein	5.73	56	114	0.012	ng	# 15
13) Acetone	5.86	58	5651	0.443	ng	94
14) Trichlorofluoromethane	6.02	101	1786	0.072	ng	95
15) 2-Propanol (Isopropanol)	6.15	45	4306	0.112	ng	92
16) Acrylonitrile	6.41	53	713	0.036	ng	# 17
17) 1,1-Dichloroethene	6.68	96	941	0.065	ng	93
18) 2-Methyl-2-Propanol (t...	6.76	59	4486	0.109	ng	82
19) Methylene Chloride	6.79	84	1025	0.066	ng	97
20) 3-Chloro-1-propene (Al...	6.91	41	999	0.042	ng	# 38
21) Trichlorotrifluoroethane	7.06	151	1166	0.100	ng	88
22) Carbon Disulfide	7.07	76	6517	0.119	ng	# 74
23) trans-1,2-Dichloroethene	7.70	61	999	0.046	ng	94
24) 1,1-Dichloroethane	7.88	63	1724	0.064	ng	# 43
25) Methyl tert-Butyl Ether	7.97	73	3295	0.070	ng	89
26) Vinyl Acetate	8.04	86	881	0.239	ng	# 22
27) 2-Butanone (MEK)	8.27	72	529	0.048	ng	# 14
28) cis-1,2-Dichloroethene	8.66	61	1327	0.063	ng	91
29) Diisopropyl Ether	8.87	87	946	0.071	ng	# 95
30) Ethyl Acetate	8.66	61	1327	0.244	ng	# 9
31) n-Hexane	8.86	57	1969	0.076	ng	# 86
32) Chloroform	8.90	83	1665	0.064	ng	95
34) Tetrahydrofuran (THF)	9.30	72	710	0.065	ng	# 72
35) Ethyl tert-Butyl Ether	9.34	87	1227	0.070	ng	# 82
36) 1,2-Dichloroethane	9.58	62	1207	0.059	ng	# 42
38) 1,1,1-Trichloroethane	9.81	97	1560	0.072	ng	# 76
39) Isopropyl Acetate	10.15	61	1123	0.123	ng	# 84
40) 1-Butanol	10.17	56	1049	0.063	ng	# 68
41) Benzene	10.23	78	5149	0.078	ng	96
42) Carbon Tetrachloride	10.36	117	1459	0.078	ng	94
43) Cyclohexane	10.48	84	3971	0.180	ng	92
44) tert-Amyl Methyl Ether	10.77	73	3069	0.071	ng	97
45) 1,2-Dichloropropane	10.96	63	1028	0.074	ng	85
46) Bromodichloromethane	11.12	83	1124	0.058	ng	100
47) Trichloroethene	11.17	130	2222	0.155	ng	100
48) 1,4-Dioxane	11.17	88	578	0.050	ng	# 19
49) 2,2,4-Trimethylpentane...	11.22	57	249	0.079	ng	96

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Data File: I:\MS08\Data\2016_10\08\10081611.D
 Acq On : 8 Oct 2016 14:27
 Sample : 0.10ng TO-15 ICAL Standard
 Misc : S29-09081602/S29-10061601 (11/4)
 ALS Vial : 13 Sample Multiplier: 1

Operator: WA

Quant Time: Oct 10 08:50:37 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Mon Oct 10 08:49:43 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

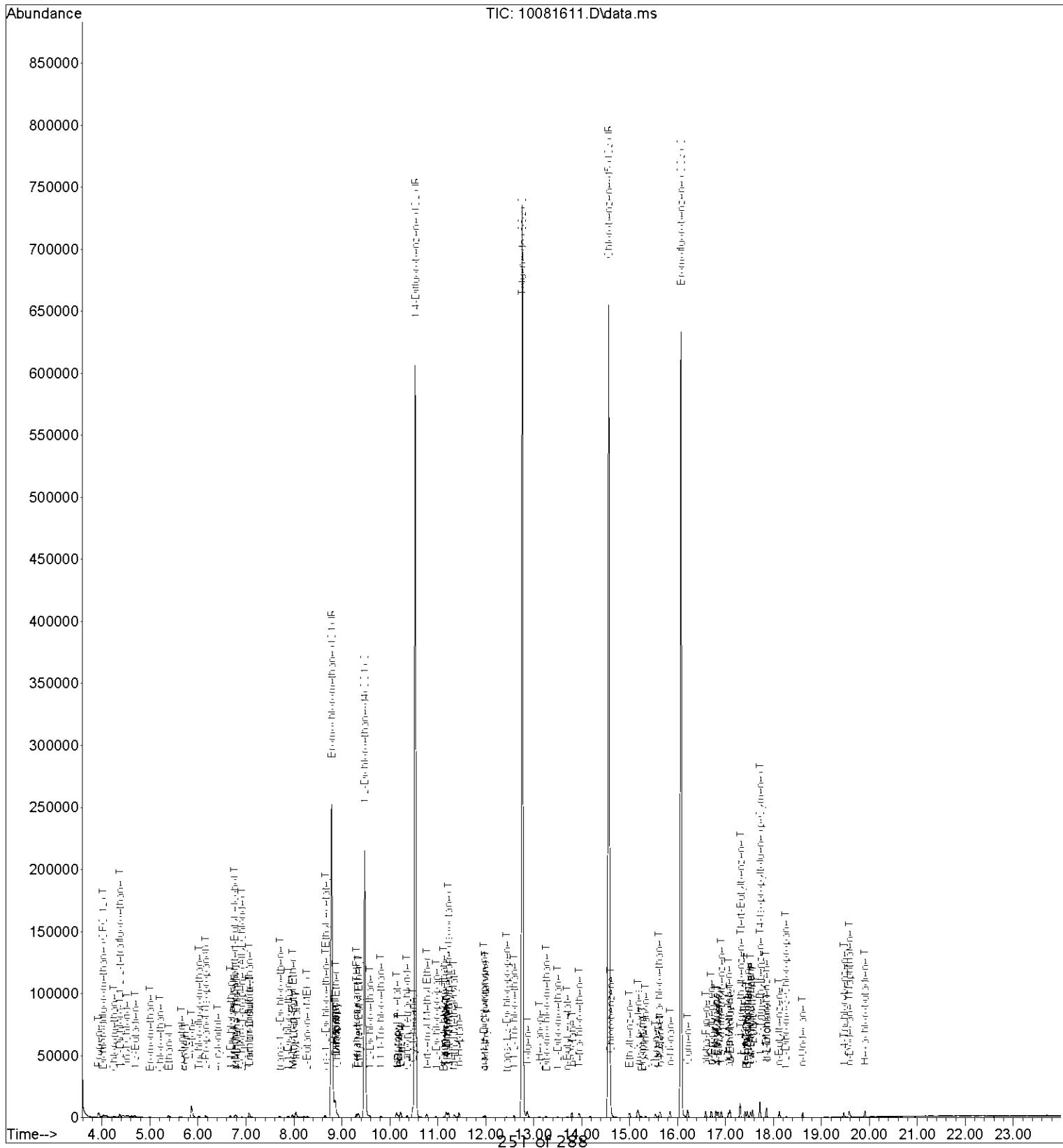
	Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
50)	Methyl Methacrylate	11.33	100	510	0.091	ng	# 36
51)	n-Heptane	11.44	71	1134	0.080	ng	91
52)	cis-1,3-Dichloropropene	11.96	75	1276	0.054	ng	# 42
53)	4-Methyl-2-pentanone	11.99	58	441	0.034	ng	# 1
54)	trans-1,3-Dichloropropene	12.44	75	669	0.031	ng	# 43
55)	1,1,2-Trichloroethane	12.59	97	907	0.066	ng	99
58)	Toluene	12.86	91	5065	0.084	ng	99
59)	2-Hexanone	13.12	43	1050	0.033	ng	76
60)	Dibromochloromethane	13.25	129	1093	0.071	ng	90
61)	1,2-Dibromoethane	13.50	107	875	0.058	ng	98
62)	n-Butyl Acetate	13.69	43	1778	0.051	ng	# 77
63)	n-Octane	13.80	57	843	0.065	ng	93
64)	Tetrachloroethene	13.95	166	1726	0.125	ng	97
65)	Chlorobenzene	14.61	112	3369	0.090	ng	98
66)	Ethylbenzene	15.00	91	5102	0.079	ng	94
67)	m- & p-Xylenes	15.17	91	7990	0.159	ng	93
68)	Bromoform	15.26	173	827	0.069	ng	# 29
69)	Styrene	15.54	104	2527	0.063	ng	99
70)	o-Xylene	15.63	91	3956	0.078	ng	97
71)	n-Nonane	15.84	43	1940	0.070	ng	90
72)	1,1,2,2-Tetrachloroethane	15.61	83	1552	0.062	ng	100
74)	Cumene	16.21	105	5499	0.087	ng	95
75)	alpha-Pinene	16.58	93	2811	0.085	ng	93
76)	n-Propylbenzene	16.70	91	6260	0.081	ng	# 91
77)	3-Ethyltoluene	16.79	105	4892	0.076	ng	92
78)	4-Ethyltoluene	16.84	105	5240	0.089	ng	95
79)	1,3,5-Trimethylbenzene	16.91	105	4471	0.086	ng	92
80)	alpha-Methylstyrene	17.06	118	1925	0.069	ng	92
81)	2-Ethyltoluene	17.09	105	5137	0.084	ng	95
82)	1,2,4-Trimethylbenzene	17.31	105	4189	0.080	ng	97
83)	n-Decane	17.40	57	2088	0.070	ng	93
84)	Benzyl Chloride	17.44	91	2021	0.042	ng	# 51
85)	1,3-Dichlorobenzene	17.46	146	2782	0.096	ng	93
86)	1,4-Dichlorobenzene	17.52	146	2889	0.098	ng	96
87)	sec-Butylbenzene	17.56	105	5827	0.083	ng	98
88)	4-Isopropyltoluene (p-...)	17.71	119	5436	0.085	ng	98
89)	1,2,3-Trimethylbenzene	17.71	105	4142	0.079	ng	98
90)	1,2-Dichlorobenzene	17.84	146	2531	0.092	ng	99
91)	d-Limonene	17.85	68	1421	0.059	ng	100
92)	1,2-Dibromo-3-Chloropr...	18.26	157	585	0.058	ng	# 67
93)	n-Undecane	18.61	57	1481	0.046	ng	# 77
94)	1,2,4-Trichlorobenzene	19.47	180	1906	0.096	ng	# 85
95)	Naphthalene	19.58	128	5072	0.080	ng	# 71
96)	n-Dodecane	19.58	57	916	0.030	ng	# 67
97)	Hexachlorobutadiene	19.90	225	1427	0.122	ng	99
98)	Cyclohexanone	15.33	55	1236	0.057	ng	# 61
99)	tert-Butylbenzene	17.31	119	4541	0.092	ng	96
100)	n-Butylbenzene	18.12	91	4061	0.069	ng	94

(#= qualifier out of range (m) = manual integration (+) = signals summed)

Data File: I:\MS08\Data\2016 10\08\10081611.D
 Acq On : 8 Oct 2016 14:27
 Sample : 0.10ng TO-15 ICAL Standard
 Misc : S29-09081602/S29-10061601 (11/4)
 ALS Vial : 13 Sample Multiplier: 1

Operator: WA

Quant Time: Oct 10 08:50:37 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Mon Oct 10 08:49:43 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M



Data File: I:\MS08\Data\2016_10\08\10081612.D
 Acq On : 8 Oct 2016 14:59
 Sample : 0.20ng TO-15 ICAL Standard
 Misc : S29-09081602/S29-10051615 (11/3)
 ALS Vial : 14 Sample Multiplier: 1

Quant Time: Oct 10 08:50:39 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Mon Oct 10 08:49:43 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane (IS1)	8.78	130	121401	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	10.53	114	559769	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	14.56	82	230020	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.47	65	150707	9.287	ng	-0.02
Spiked Amount	12.500	Range	70 - 130	Recovery	=	74.32%
57) Toluene-d8 (SS2)	12.76	98	576142	12.162	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	97.28%
73) Bromofluorobenzene (SS3)	16.07	174	234602	19.221	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	153.76%#

Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	3.90	42	2548	0.158	ng	97
3) Dichlorodifluoromethan...	4.01	85	4300	0.148	ng	# 87
4) Chloromethane	4.22	50	2725	0.113	ng	91
5) 1,2-Dichloro-1,1,2,2-t...	4.36	135	2579	0.165	ng	97
6) Vinyl Chloride	4.49	62	2922	0.112	ng	90
7) 1,3-Butadiene	4.67	54	2326	0.147	ng	93
8) Bromomethane	4.98	94	1818	0.123	ng	95
9) Chloroethane	5.18	64	1748	0.168	ng	# 43
10) Ethanol	5.36	45	9034	0.909	ng	92
11) Acetonitrile	5.62	41	4315	0.164	ng	92
12) Acrolein	5.72	56	898	0.098	ng	84
13) Acetone	5.85	58	9635	0.792	ng	98
14) Trichlorofluoromethane	6.01	101	4017	0.170	ng	97
15) 2-Propanol (Isopropanol)	6.13	45	11030	0.301	ng	99
16) Acrylonitrile	6.35	53	2156	0.114	ng	93
17) 1,1-Dichloroethene	6.67	96	2293	0.167	ng	96
18) 2-Methyl-2-Propanol (t...	6.75	59	11257	0.288	ng	93
19) Methylene Chloride	6.78	84	2297	0.155	ng	95
20) 3-Chloro-1-propene (Al...	6.91	41	2134	0.093	ng	96
21) Trichlorotrifluoroethane	7.06	151	2383	0.214	ng	96
22) Carbon Disulfide	7.06	76	10839	0.208	ng	91
23) trans-1,2-Dichloroethene	7.69	61	2891	0.140	ng	91
24) 1,1-Dichloroethane	7.88	63	3890	0.152	ng	92
25) Methyl tert-Butyl Ether	7.96	73	7387	0.165	ng	92
26) Vinyl Acetate	8.03	86	2309	0.657	ng	# 61
27) 2-Butanone (MEK)	8.26	72	1142	0.109	ng	# 6
28) cis-1,2-Dichloroethene	8.64	61	2945	0.148	ng	95
29) Diisopropyl Ether	8.85	87	2095	0.164	ng	# 95
30) Ethyl Acetate	8.86	61	1395	0.269	ng	89
31) n-Hexane	8.85	57	4148	0.169	ng	# 95
32) Chloroform	8.91	83	4053	0.163	ng	95
34) Tetrahydrofuran (THF)	9.29	72	1706	0.164	ng	96
35) Ethyl tert-Butyl Ether	9.33	87	3005	0.181	ng	94
36) 1,2-Dichloroethane	9.57	62	2684	0.138	ng	96
38) 1,1,1-Trichloroethane	9.82	97	3605	0.174	ng	98
39) Isopropyl Acetate	10.13	61	2733	0.313	ng	100
40) 1-Butanol	10.16	56	3751	0.234	ng	83
41) Benzene	10.23	78	10059	0.159	ng	97
42) Carbon Tetrachloride	10.35	117	3150	0.175	ng	97
43) Cyclohexane	10.47	84	8153	0.387	ng	97
44) tert-Amyl Methyl Ether	10.76	73	6871	0.166	ng	97
45) 1,2-Dichloropropane	10.96	63	2214	0.167	ng	94
46) Bromodichloromethane	11.12	83	2715	0.147	ng	100
47) Trichloroethene	11.17	130	2894	0.210	ng	100
48) 1,4-Dioxane	11.16	88	1960	0.177	ng	98
49) 2,2,4-Trimethylpentane...	11.22	57	2520652	0.189	ng	98

2520652 288

Data File: I:\MS08\Data\2016_10\08\10081612.D
 Acq On : 8 Oct 2016 14:59
 Sample : 0.20ng TO-15 ICAL Standard
 Misc : S29-09081602/S29-10051615 (11/3)
 ALS Vial : 14 Sample Multiplier: 1

Operator: WA

Quant Time: Oct 10 08:50:39 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Mon Oct 10 08:49:43 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
50) Methyl Methacrylate	11.33	100	1649	0.306	ng	# 87
51) n-Heptane	11.44	71	2402	0.177	ng	93
52) cis-1,3-Dichloropropene	11.95	75	3453	0.153	ng	94
53) 4-Methyl-2-pentanone	11.97	58	1650	0.132	ng	# 74
54) trans-1,3-Dichloropropene	12.43	75	2203	0.107	ng	94
55) 1,1,2-Trichloroethane	12.58	97	2424	0.185	ng	84
58) Toluene	12.86	91	10160	0.174	ng	97
59) 2-Hexanone	13.10	43	4003	0.130	ng	80
60) Dibromochloromethane	13.25	129	2452	0.164	ng	98
61) 1,2-Dibromoethane	13.50	107	2391	0.163	ng	91
62) n-Butyl Acetate	13.68	43	4660	0.138	ng	89
63) n-Octane	13.80	57	2038	0.164	ng	99
64) Tetrachloroethene	13.95	166	3437	0.258	ng	96
65) Chlorobenzene	14.61	112	7422	0.206	ng	100
66) Ethylbenzene	14.99	91	11150	0.179	ng	97
67) m- & p-Xylenes	15.16	91	17531	0.360	ng	98
68) Bromoform	15.25	173	2102	0.183	ng	88
69) Styrene	15.53	104	6549	0.169	ng	95
70) o-Xylene	15.63	91	9281	0.189	ng	94
71) n-Nonane	15.84	43	4737	0.176	ng	96
72) 1,1,2,2-Tetrachloroethane	15.62	83	3850	0.159	ng	95
74) Cumene	16.21	105	12177	0.200	ng	96
75) alpha-Pinene	16.59	93	6061	0.190	ng	95
76) n-Propylbenzene	16.70	91	13768	0.184	ng	98
77) 3-Ethyltoluene	16.79	105	11738	0.189	ng	98
78) 4-Ethyltoluene	16.84	105	11775	0.207	ng	97
79) 1,3,5-Trimethylbenzene	16.91	105	9976	0.198	ng	98
80) alpha-Methylstyrene	17.06	118	4770	0.178	ng	96
81) 2-Ethyltoluene	17.10	105	12126	0.205	ng	98
82) 1,2,4-Trimethylbenzene	17.31	105	9859	0.196	ng	97
83) n-Decane	17.40	57	5252	0.183	ng	91
84) Benzyl Chloride	17.43	91	4941	0.106	ng	93
85) 1,3-Dichlorobenzene	17.45	146	6207	0.221	ng	96
86) 1,4-Dichlorobenzene	17.52	146	6507	0.229	ng	97
87) sec-Butylbenzene	17.56	105	13464	0.199	ng	99
88) 4-Isopropyltoluene (p-...)	17.71	119	12756	0.207	ng	99
89) 1,2,3-Trimethylbenzene	17.71	105	9639	0.191	ng	99
90) 1,2-Dichlorobenzene	17.84	146	6082	0.228	ng	100
91) d-Limonene	17.85	68	3256	0.141	ng	97
92) 1,2-Dibromo-3-Chloropr...	18.26	157	1836	0.189	ng	95
93) n-Undecane	18.60	57	5102	0.165	ng	96
94) 1,2,4-Trichlorobenzene	19.46	180	4443	0.232	ng	98
95) Naphthalene	19.57	128	12361	0.202	ng	98
96) n-Dodecane	19.58	57	4956	0.171	ng	98
97) Hexachlorobutadiene	19.90	225	3289	0.291	ng	98
98) Cyclohexanone	15.33	55	3075	0.146	ng	99
99) tert-Butylbenzene	17.30	119	10378	0.217	ng	99
100) n-Butylbenzene	18.12	91	9914	0.174	ng	94

(#= qualifier out of range (m) = manual integration (+) = signals summed)

Data File: I:\MS08\Data\2016 10\08\10081612.D
 Acq On : 8 Oct 2016 14:59
 Sample : 0.20ng TO-15 ICAL Standard
 Misc : S29-09081602/S29-10051615 (11/3)
 ALS Vial : 14 Sample Multiplier: 1

Operator: WA

Quant Time: Oct 10 08:50:39 2016

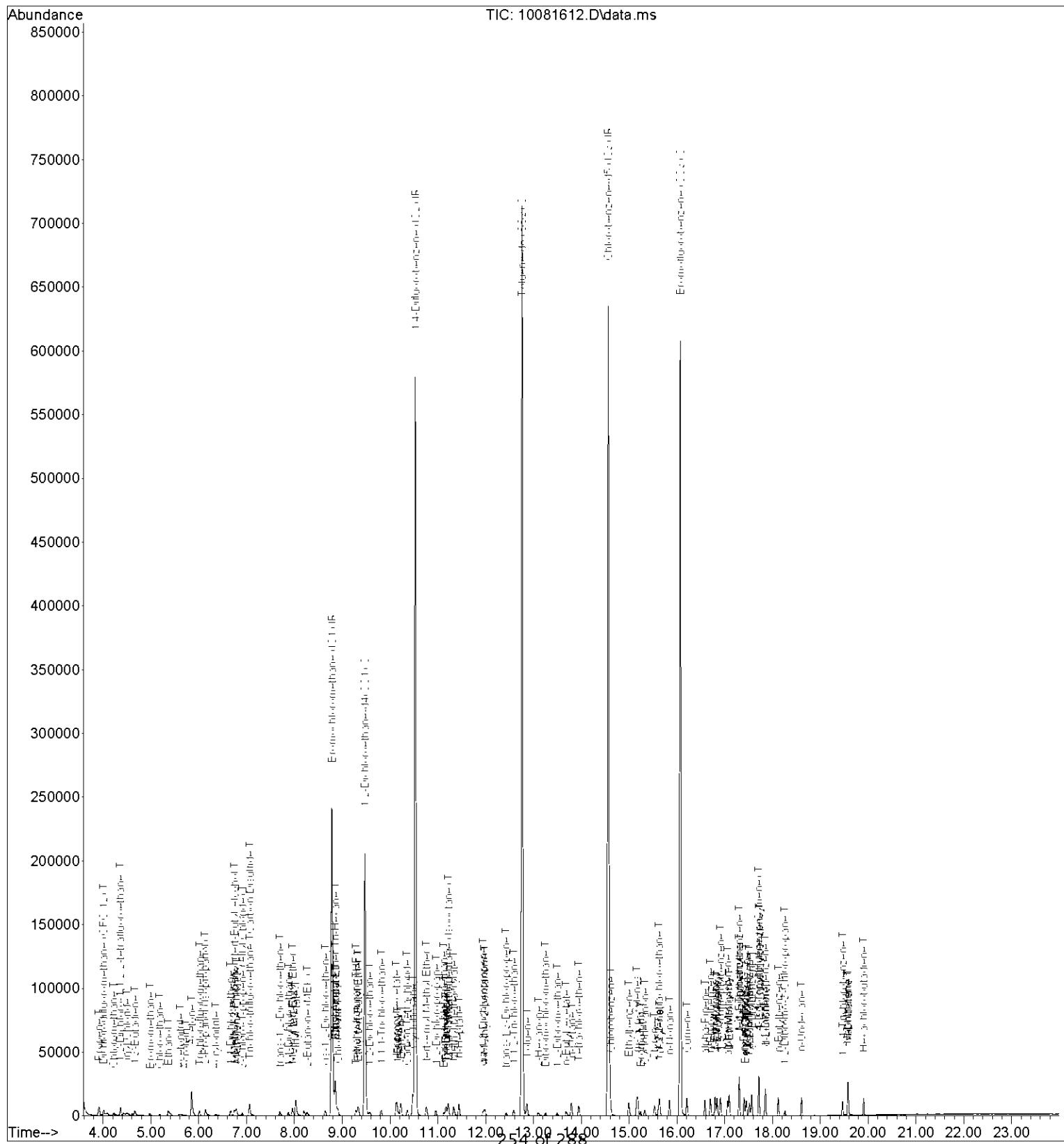
Quant Method : I:\MS08\Methods\R8100816.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Mon Oct 10 08:49:43 2016

Response via : Initial Calibration

DataAcq Meth:TO15.M



Data File: I:\MS08\Data\2016_10\08\10081613.D
 Acq On : 8 Oct 2016 15:32
 Sample : 0.40ng TO-15 ICAL Standard
 Misc : S29-09081602/S29-10051615 (11/3)
 ALS Vial : 14 Sample Multiplier: 1

Operator: WA

Quant Time: Oct 10 08:50:41 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Mon Oct 10 08:49:43 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane (IS1)	8.78	130	124228	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	10.53	114	565939	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	14.56	82	234351	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.47	65	155823	9.384	ng	-0.02
Spiked Amount	12.500	Range	70 - 130	Recovery	=	75.04%
57) Toluene-d8 (SS2)	12.76	98	581715	12.053	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	96.40%
73) Bromofluorobenzene (SS3)	16.07	174	237587	19.105	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	152.88%#

Target Compounds

						Qvalue
2) Propene	3.90	42	4660	0.283	ng	95
3) Dichlorodifluoromethan...	4.00	85	8212	0.277	ng	# 95
4) Chloromethane	4.21	50	5293	0.214	ng	96
5) 1,2-Dichloro-1,1,2,2-t...	4.36	135	4891	0.305	ng	95
6) Vinyl Chloride	4.49	62	5503	0.206	ng	97
7) 1,3-Butadiene	4.66	54	4047	0.250	ng	95
8) Bromomethane	4.97	94	3592	0.238	ng	97
9) Chloroethane	5.18	64	3325	0.312	ng	96
10) Ethanol	5.36	45	16399	1.612	ng	95
11) Acetonitrile	5.58	41	8980	0.335	ng	98
12) Acrolein	5.72	56	2661	0.284	ng	82
13) Acetone	5.84	58	18427	1.481	ng	100
14) Trichlorofluoromethane	6.01	101	7324	0.303	ng	97
15) 2-Propanol (Isopropanol)	6.13	45	21069	0.562	ng	99
16) Acrylonitrile	6.34	53	5306	0.275	ng	98
17) 1,1-Dichloroethene	6.66	96	4485	0.320	ng	96
18) 2-Methyl-2-Propanol (t...	6.74	59	22244	0.556	ng	94
19) Methylene Chloride	6.78	84	4487	0.296	ng	98
20) 3-Chloro-1-propene (Al...	6.90	41	4527	0.194	ng	96
21) Trichlorotrifluoroethane	7.06	151	4427	0.388	ng	91
22) Carbon Disulfide	7.06	76	18649	0.349	ng	95
23) trans-1,2-Dichloroethene	7.69	61	5755	0.272	ng	95
24) 1,1-Dichloroethane	7.87	63	7078	0.271	ng	96
25) Methyl tert-Butyl Ether	7.95	73	14223	0.310	ng	97
26) Vinyl Acetate	8.02	86	5144	1.431	ng	# 74
27) 2-Butanone (MEK)	8.25	72	2594	0.243	ng	# 75
28) cis-1,2-Dichloroethene	8.64	61	5609	0.275	ng	99
29) Diisopropyl Ether	8.85	87	4371	0.335	ng	96
30) Ethyl Acetate	8.85	61	2805	0.529	ng	99
31) n-Hexane	8.85	57	7893	0.314	ng	97
32) Chloroform	8.90	83	7502	0.295	ng	100
34) Tetrahydrofuran (THF)	9.28	72	3189	0.299	ng	# 89
35) Ethyl tert-Butyl Ether	9.33	87	5878	0.346	ng	98
36) 1,2-Dichloroethane	9.58	62	5241	0.264	ng	96
38) 1,1,1-Trichloroethane	9.81	97	6855	0.328	ng	97
39) Isopropyl Acetate	10.12	61	5819	0.660	ng	95
40) 1-Butanol	10.15	56	7770	0.479	ng	82
41) Benzene	10.22	78	18836	0.294	ng	100
42) Carbon Tetrachloride	10.36	117	5840	0.321	ng	96
43) Cyclohexane	10.47	84	15702	0.738	ng	98
44) tert-Amyl Methyl Ether	10.75	73	13653	0.327	ng	99
45) 1,2-Dichloropropane	10.95	63	4478	0.334	ng	96
46) Bromodichloromethane	11.12	83	5634	0.302	ng	100
47) Trichloroethene	11.17	130	5499	0.395	ng	99
48) 1,4-Dioxane	11.15	88	3895	0.348	ng	99
49) 2,2,4-Trimethylpentane...	11.22	57	19517	0.342	ng	98
			255 of 288			

Data File: I:\MS08\Data\2016_10\08\10081613.D
 Acq On : 8 Oct 2016 15:32
 Sample : 0.40ng TO-15 ICAL Standard
 Misc : S29-09081602/S29-10051615 (11/3)
 ALS Vial : 14 Sample Multiplier: 1

Operator: WA

Quant Time: Oct 10 08:50:41 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Mon Oct 10 08:49:43 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
50) Methyl Methacrylate	11.33	100	3618	0.664	ng #	86
51) n-Heptane	11.44	71	4661	0.339	ng	97
52) cis-1,3-Dichloropropene	11.95	75	6462	0.283	ng	96
53) 4-Methyl-2-pentanone	11.97	58	3928	0.310	ng	92
54) trans-1,3-Dichloropropene	12.42	75	5157	0.247	ng	98
55) 1,1,2-Trichloroethane	12.59	97	4436	0.335	ng	97
58) Toluene	12.86	91	19181	0.322	ng	99
59) 2-Hexanone	13.08	43	8160	0.260	ng	95
60) Dibromochloromethane	13.25	129	4930	0.324	ng	99
61) 1,2-Dibromoethane	13.49	107	4782	0.319	ng	100
62) n-Butyl Acetate	13.67	43	9678	0.282	ng	97
63) n-Octane	13.79	57	4011	0.316	ng	95
64) Tetrachloroethene	13.94	166	6353	0.469	ng	99
65) Chlorobenzene	14.61	112	13730	0.373	ng	99
66) Ethylbenzene	14.99	91	21683	0.341	ng	100
67) m- & p-Xylenes	15.18	91	34150	0.688	ng	98
68) Bromoform	15.25	173	4302	0.367	ng	97
69) Styrene	15.53	104	13410	0.339	ng	95
70) o-Xylene	15.63	91	17024	0.339	ng	100
71) n-Nonane	15.84	43	8944	0.327	ng	98
72) 1,1,2,2-Tetrachloroethane	15.61	83	7478	0.302	ng	98
74) Cumene	16.21	105	22791	0.367	ng	99
75) alpha-Pinene	16.59	93	11174	0.344	ng	95
76) n-Propylbenzene	16.70	91	26253	0.344	ng	98
77) 3-Ethyltoluene	16.79	105	22576	0.357	ng	99
78) 4-Ethyltoluene	16.84	105	21316	0.368	ng	100
79) 1,3,5-Trimethylbenzene	16.91	105	19543	0.380	ng	97
80) alpha-Methylstyrene	17.05	118	9786	0.358	ng	97
81) 2-Ethyltoluene	17.09	105	22530	0.374	ng	99
82) 1,2,4-Trimethylbenzene	17.30	105	19076	0.372	ng	100
83) n-Decane	17.40	57	9864	0.337	ng	96
84) Benzyl Chloride	17.43	91	10433	0.219	ng	96
85) 1,3-Dichlorobenzene	17.45	146	11897	0.416	ng	100
86) 1,4-Dichlorobenzene	17.52	146	12590	0.435	ng	96
87) sec-Butylbenzene	17.56	105	26045	0.378	ng	99
88) 4-Isopropyltoluene (p-...)	17.71	119	24745	0.394	ng	99
89) 1,2,3-Trimethylbenzene	17.71	105	18827	0.367	ng	98
90) 1,2-Dichlorobenzene	17.84	146	11554	0.425	ng	99
91) d-Limonene	17.85	68	6491	0.276	ng	99
92) 1,2-Dibromo-3-Chloropr...	18.26	157	3755	0.380	ng	98
93) n-Undecane	18.60	57	10065	0.319	ng	99
94) 1,2,4-Trichlorobenzene	19.46	180	8823	0.451	ng	99
95) Naphthalene	19.57	128	24849	0.399	ng	100
96) n-Dodecane	19.58	57	10160	0.343	ng	95
97) Hexachlorobutadiene	19.90	225	6469	0.562	ng	100
98) Cyclohexanone	15.32	55	5778	0.270	ng	97
99) tert-Butylbenzene	17.30	119	20187	0.414	ng	99
100) n-Butylbenzene	18.11	91	19397	0.334	ng	97

(#= qualifier out of range (m) = manual integration (+) = signals summed)

Data File: I:\MS08\Data\2016_10\08\10081613
Acq On : 8 Oct 2016 15:32
Sample : 0.40ng TO-15 ICAL Standard
Misc : S29-09081602/S29-10051615 (11/3)
ALS Vial : 14 Sample Multiplier: 1

Operator: WA

Quant Time: Oct 10 08:50:41 2016

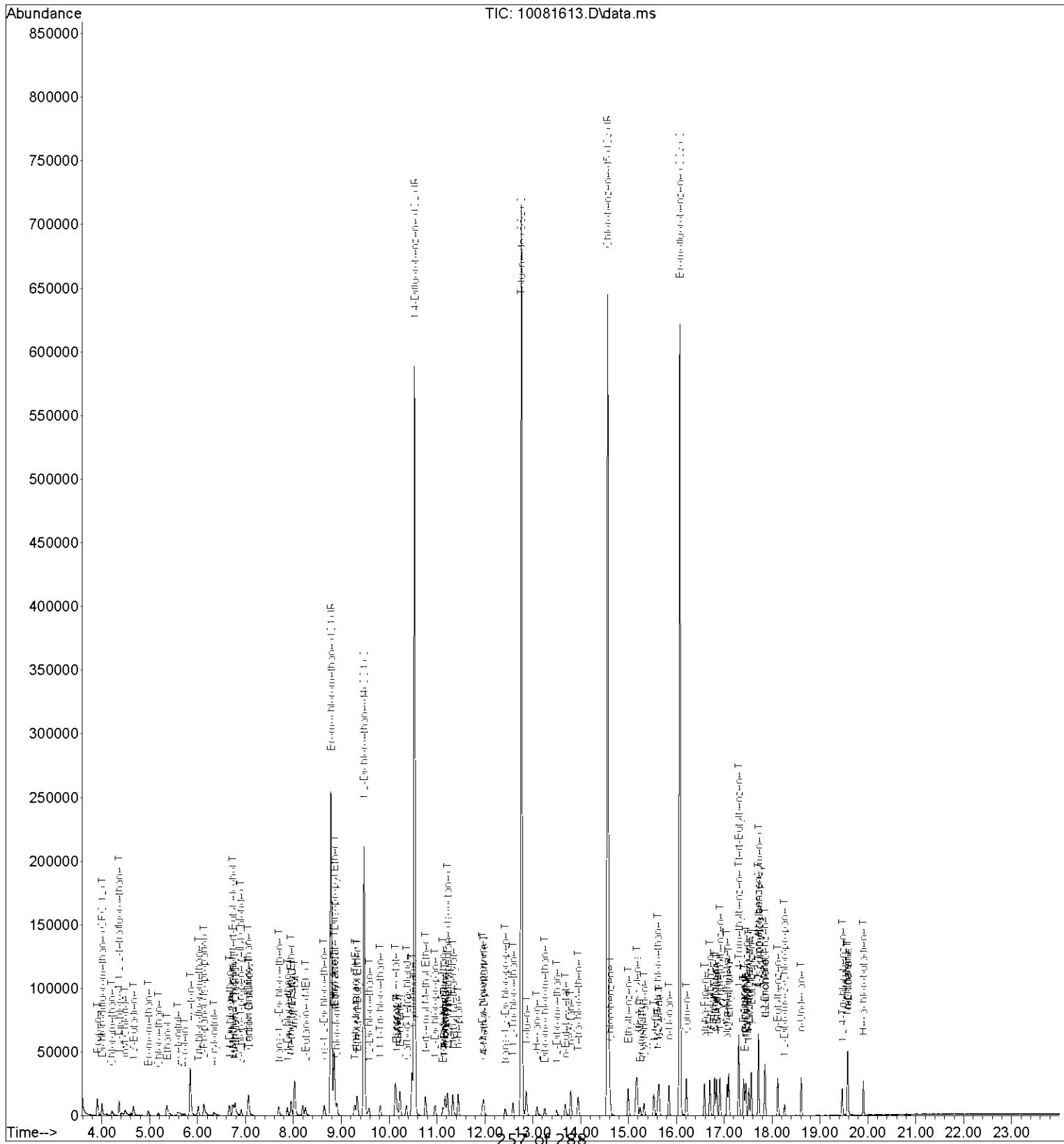
Quant Method : I:\MS08\Methods\R8100816.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Mon Oct 10 08:49:43 2016

Response via : Initial Calibration

DataAcq Meth:TO15.M



Data File: I:\MS08\Data\2016_10\08\10081614.D
 Acq On : 8 Oct 2016 16:04
 Sample : 1.0ng TO-15 ICAL Standard
 Misc : S29-09081602/S29-10051609 (11/3)
 ALS Vial : 16 Sample Multiplier: 1

Operator: WA

Quant Time: Oct 10 08:50:43 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Mon Oct 10 08:49:43 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane (IS1)	8.78	130	118559	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	10.53	114	542849	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	14.56	82	223413	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.47	65	151146	9.538	ng	-0.02
Spiked Amount	12.500	Range	70 - 130	Recovery	=	76.32%
57) Toluene-d8 (SS2)	12.76	98	558344	12.135	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	97.12%
73) Bromofluorobenzene (SS3)	16.07	174	228805	19.300	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	154.40%#

Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	3.89	42	12025	0.764	ng	97
3) Dichlorodifluoromethan...	4.00	85	20956	0.740	ng	99
4) Chloromethane	4.20	50	14807	0.629	ng	96
5) 1,2-Dichloro-1,1,2,2-t...	4.35	135	12022	0.786	ng	99
6) Vinyl Chloride	4.47	62	15015	0.588	ng	99
7) 1,3-Butadiene	4.65	54	11202	0.725	ng	94
8) Bromomethane	4.97	94	9343	0.650	ng	97
9) Chloroethane	5.16	64	8394	0.826	ng	98
10) Ethanol	5.35	45	41858	4.312	ng	100
11) Acetonitrile	5.57	41	21872	0.854	ng	97
12) Acrolein	5.71	56	7005	0.784	ng	99
13) Acetone	5.84	58	45474	3.829	ng	97
14) Trichlorofluoromethane	6.01	101	18883	0.818	ng	99
15) 2-Propanol (Isopropanol)	6.12	45	56278	1.574	ng	95
16) Acrylonitrile	6.33	53	15347	0.832	ng	97
17) 1,1-Dichloroethene	6.66	96	11327	0.846	ng	97
18) 2-Methyl-2-Propanol (t...	6.72	59	58157	1.523	ng	98
19) Methylene Chloride	6.78	84	11735	0.812	ng	99
20) 3-Chloro-1-propene (Al...	6.90	41	12668	0.568	ng	96
21) Trichlorotrifluoroethane	7.06	151	11664	1.072	ng	98
22) Carbon Disulfide	7.05	76	44442	0.872	ng	96
23) trans-1,2-Dichloroethene	7.69	61	15478	0.767	ng	97
24) 1,1-Dichloroethane	7.87	63	18944	0.759	ng	99
25) Methyl tert-Butyl Ether	7.94	73	35951	0.822	ng	99
26) Vinyl Acetate	8.02	86	15029	4.382	ng	# 84
27) 2-Butanone (MEK)	8.24	72	7931	0.778	ng	98
28) cis-1,2-Dichloroethene	8.64	61	15176	0.780	ng	96
29) Diisopropyl Ether	8.84	87	10859	0.872	ng	# 96
30) Ethyl Acetate	8.84	61	8231	1.625	ng	96
31) n-Hexane	8.85	57	19888	0.829	ng	97
32) Chloroform	8.91	83	19573	0.806	ng	99
34) Tetrahydrofuran (THF)	9.27	72	8208	0.806	ng	92
35) Ethyl tert-Butyl Ether	9.33	87	15329	0.946	ng	99
36) 1,2-Dichloroethane	9.58	62	13876	0.731	ng	99
38) 1,1,1-Trichloroethane	9.81	97	18082	0.902	ng	99
39) Isopropyl Acetate	10.12	61	14383	1.700	ng	99
40) 1-Butanol	10.13	56	22183	1.424	ng	89
41) Benzene	10.23	78	48188	0.783	ng	99
42) Carbon Tetrachloride	10.36	117	15405	0.884	ng	98
43) Cyclohexane	10.47	84	38562	1.889	ng	97
44) tert-Amyl Methyl Ether	10.75	73	34366	0.857	ng	99
45) 1,2-Dichloropropane	10.95	63	10886	0.846	ng	99
46) Bromodichloromethane	11.12	83	14691	0.820	ng	100
47) Trichloroethene	11.17	130	13998	1.049	ng	99
48) 1,4-Dioxane	11.14	88	10379	0.967	ng	99
49) 2,2,4-Trimethylpentane...	11.22	57	258 of 288	0.923	ng	98

Data File: I:\MS08\Data\2016_10\08\10081614.D
 Acq On : 8 Oct 2016 16:04
 Sample : 1.0ng TO-15 ICAL Standard
 Misc : S29-09081602/S29-10051609 (11/3)
 ALS Vial : 16 Sample Multiplier: 1

Operator: WA

Quant Time: Oct 10 08:50:43 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Mon Oct 10 08:49:43 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	11.32	100	10299	1.970	ng	95
51) n-Heptane	11.44	71	12329	0.935	ng	98
52) cis-1,3-Dichloropropene	11.94	75	18135	0.827	ng	99
53) 4-Methyl-2-pentanone	11.97	58	10699	0.881	ng	94
54) trans-1,3-Dichloropropene	12.42	75	14530	0.726	ng	99
55) 1,1,2-Trichloroethane	12.58	97	11859	0.934	ng	97
58) Toluene	12.86	91	49986	0.879	ng	100
59) 2-Hexanone	13.08	43	24369	0.814	ng	99
60) Dibromochloromethane	13.24	129	13456	0.928	ng	99
61) 1,2-Dibromoethane	13.49	107	12952	0.907	ng	98
62) n-Butyl Acetate	13.67	43	27503	0.841	ng	99
63) n-Octane	13.79	57	10181	0.841	ng	99
64) Tetrachloroethene	13.94	166	16049	1.243	ng	100
65) Chlorobenzene	14.61	112	35050	1.000	ng	99
66) Ethylbenzene	14.99	91	56497	0.931	ng	98
67) m- & p-Xylenes	15.16	91	85313	1.804	ng	98
68) Bromoform	15.24	173	11805	1.056	ng	98
69) Styrene	15.53	104	35474	0.941	ng	99
70) o-Xylene	15.63	91	45007	0.941	ng	98
71) n-Nonane	15.84	43	23132	0.886	ng	100
72) 1,1,2,2-Tetrachloroethane	15.61	83	20330	0.862	ng	96
74) Cumene	16.20	105	58844	0.995	ng	99
75) alpha-Pinene	16.58	93	30511	0.986	ng	98
76) n-Propylbenzene	16.69	91	69493	0.956	ng	99
77) 3-Ethyltoluene	16.79	105	61370	1.019	ng	98
78) 4-Ethyltoluene	16.83	105	55961	1.013	ng	98
79) 1,3,5-Trimethylbenzene	16.91	105	48561	0.990	ng	99
80) alpha-Methylstyrene	17.05	118	27133	1.042	ng	98
81) 2-Ethyltoluene	17.09	105	59597	1.038	ng	99
82) 1,2,4-Trimethylbenzene	17.30	105	49281	1.009	ng	100
83) n-Decane	17.40	57	25525	0.916	ng	97
84) Benzyl Chloride	17.42	91	33291	0.733	ng	97
85) 1,3-Dichlorobenzene	17.45	146	31628	1.161	ng	99
86) 1,4-Dichlorobenzene	17.51	146	32285	1.170	ng	99
87) sec-Butylbenzene	17.56	105	66476	1.012	ng	99
88) 4-Isopropyltoluene (p-...)	17.71	119	63699	1.064	ng	99
89) 1,2,3-Trimethylbenzene	17.71	105	48737	0.996	ng	99
90) 1,2-Dichlorobenzene	17.84	146	30947	1.193	ng	97
91) d-Limonene	17.85	68	18019	0.803	ng	98
92) 1,2-Dibromo-3-Chloropr...	18.25	157	10366	1.100	ng	96
93) n-Undecane	18.60	57	26681	0.888	ng	99
94) 1,2,4-Trichlorobenzene	19.46	180	24301	1.304	ng	98
95) Naphthalene	19.57	128	73599	1.241	ng	99
96) n-Dodecane	19.58	57	27057	0.959	ng	98
97) Hexachlorobutadiene	19.90	225	16673	1.520	ng	97
98) Cyclohexanone	15.32	55	15882	0.777	ng	99
99) tert-Butylbenzene	17.30	119	51981	1.119	ng	98
100) n-Butylbenzene	18.11	91	52191	0.944	ng	98

(#= qualifier out of range (m)= manual integration (+)= signals summed)

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016_10\08\10081614
Acq On : 8 Oct 2016 16:04
Sample : 1.0ng TO-15 ICAL Standard
Misc : S29-09081602/S29-10051609 (11/3)
ALS Vial : 16 Sample Multiplier: 1

Operator: WA

Quant Time: Oct 10 08:50:43 2016

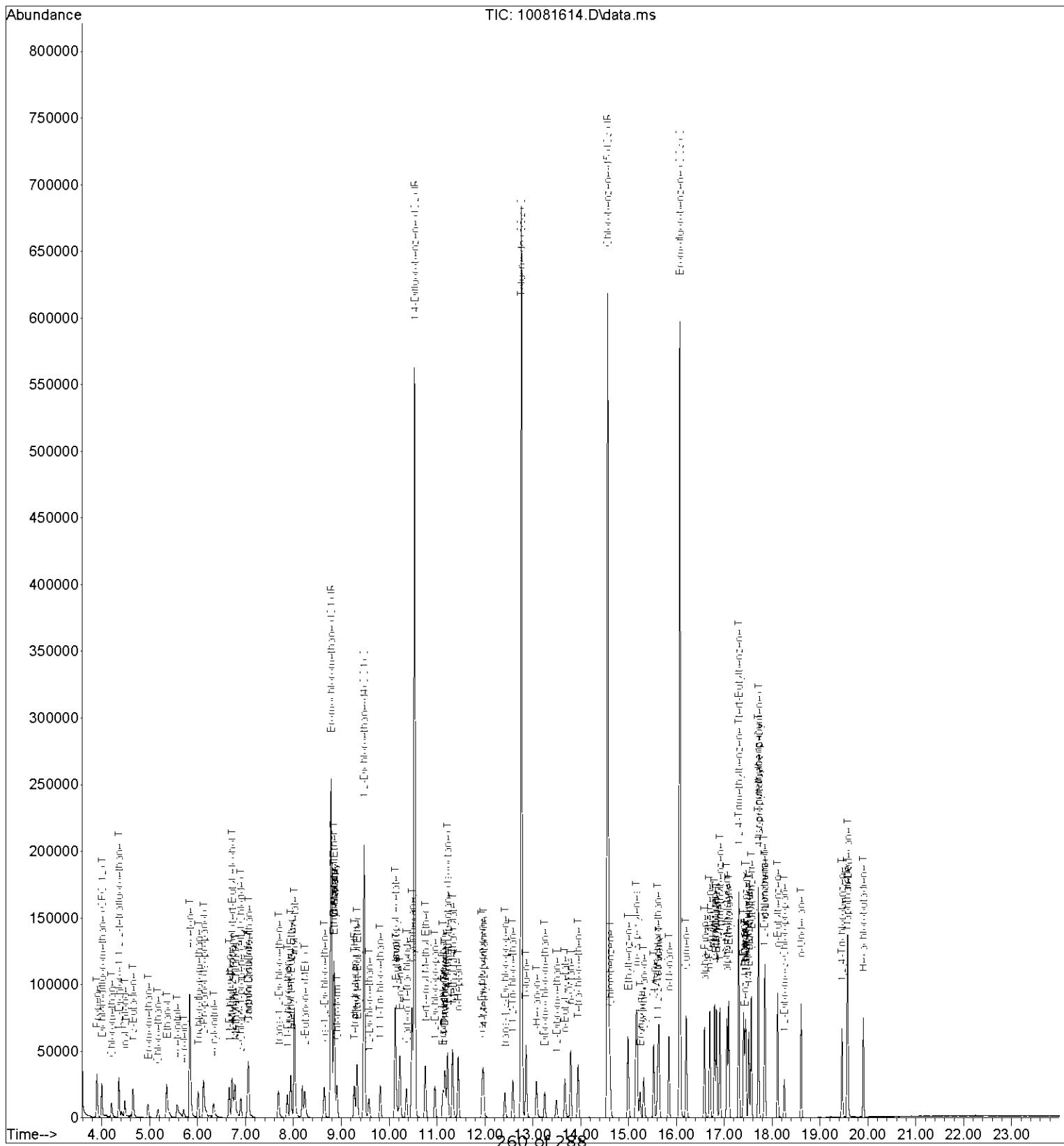
Quant Method : I:\MS08\Methods\R8100816.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Last Update : Mon Oct 10 08:49:43 2016

Response via : Initial Calibration

DataAcq Meth:TO15.M



Data File: I:\MS08\Data\2016_10\08\10081615.D
 Acq On : 8 Oct 2016 16:36
 Sample : 5.0ng TO-15 ICAL Standard
 Misc : S29-09081602/S29-10051609 (11/3)
 ALS Vial : 16 Sample Multiplier: 1

Operator: WA

Quant Time: Oct 10 08:50:45 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Mon Oct 10 08:49:43 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane (IS1)	8.79	130	124934	12.500	ng	-0.01
37) 1,4-Difluorobenzene (IS2)	10.53	114	564916	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.56	82	233960	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.48	65	157101	9.408	ng	-0.01
Spiked Amount	12.500	Range	70 - 130	Recovery	=	75.28%
57) Toluene-d8 (SS2)	12.77	98	577389	11.983	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	95.84%
73) Bromofluorobenzene (SS3)	16.07	174	239654	19.304	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	154.40%#

Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	3.87	42	54624	3.295	ng	98
3) Dichlorodifluoromethan...	3.99	85	93051	3.117	ng	99
4) Chloromethane	4.18	50	60720	2.446	ng	99
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	53987	3.351	ng	99
6) Vinyl Chloride	4.46	62	68102	2.531	ng	100
7) 1,3-Butadiene	4.64	54	53457	3.284	ng	99
8) Bromomethane	4.95	94	42150	2.782	ng	98
9) Chloroethane	5.16	64	36579	3.418	ng	98
10) Ethanol	5.36	45	188876	18.464	ng	99
11) Acetonitrile	5.57	41	98362	3.644	ng	99
12) Acrolein	5.70	56	33270	3.533	ng	95
13) Acetone	5.83	58	203842	16.287	ng	99
14) Trichlorofluoromethane	6.00	101	83295	3.424	ng	100
15) 2-Propanol (Isopropanol)	6.12	45	259560	6.890	ng	98
16) Acrylonitrile	6.33	53	71059	3.657	ng	99
17) 1,1-Dichloroethene	6.65	96	51661	3.661	ng	99
18) 2-Methyl-2-Propanol (t...	6.72	59	269264	6.691	ng	99
19) Methylene Chloride	6.78	84	52129	3.424	ng	98
20) 3-Chloro-1-propene (Al...	6.90	41	65057	2.768	ng	97
21) Trichlorotrifluoroethane	7.06	151	52114	4.544	ng	99
22) Carbon Disulfide	7.04	76	191530	3.566	ng	99
23) trans-1,2-Dichloroethene	7.68	61	70141	3.301	ng	100
24) 1,1-Dichloroethane	7.88	63	84919	3.229	ng	99
25) Methyl tert-Butyl Ether	7.93	73	163810	3.555	ng	98
26) Vinyl Acetate	8.02	86	75912	21.003	ng	# 92
27) 2-Butanone (MEK)	8.24	72	38148	3.551	ng	98
28) cis-1,2-Dichloroethene	8.64	61	67033	3.271	ng	100
29) Diisopropyl Ether	8.84	87	46534	3.545	ng	# 91
30) Ethyl Acetate	8.84	61	38194	7.157	ng	96
31) n-Hexane	8.85	57	86642	3.428	ng	100
32) Chloroform	8.91	83	86005	3.363	ng	98
34) Tetrahydrofuran (THF)	9.26	72	37476	3.491	ng	93
35) Ethyl tert-Butyl Ether	9.33	87	68799	4.027	ng	100
36) 1,2-Dichloroethane	9.58	62	62485	3.124	ng	99
38) 1,1,1-Trichloroethane	9.82	97	79294	3.801	ng	98
39) Isopropyl Acetate	10.12	61	65930	7.487	ng	97
40) 1-Butanol	10.12	56	115663	7.136	ng	97
41) Benzene	10.23	78	207826	3.245	ng	100
42) Carbon Tetrachloride	10.36	117	70083	3.863	ng	100
43) Cyclohexane	10.48	84	173583	8.170	ng	97
44) tert-Amyl Methyl Ether	10.75	73	154721	3.708	ng	99
45) 1,2-Dichloropropane	10.96	63	49794	3.718	ng	99
46) Bromodichloromethane	11.12	83	68786	3.689	ng	98
47) Trichloroethene	11.17	130	61486	4.428	ng	96
48) 1,4-Dioxane	11.14	88	46373	4.151	ng	100
49) 2,2,4-Trimethylpentane...	11.22	57	223135	3.913	ng	99

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Data File: I:\MS08\Data\2016_10\08\10081615.D
 Acq On : 8 Oct 2016 16:36
 Sample : 5.0ng TO-15 ICAL Standard
 Misc : S29-09081602/S29-10051609 (11/3)
 ALS Vial : 16 Sample Multiplier: 1

Operator: WA

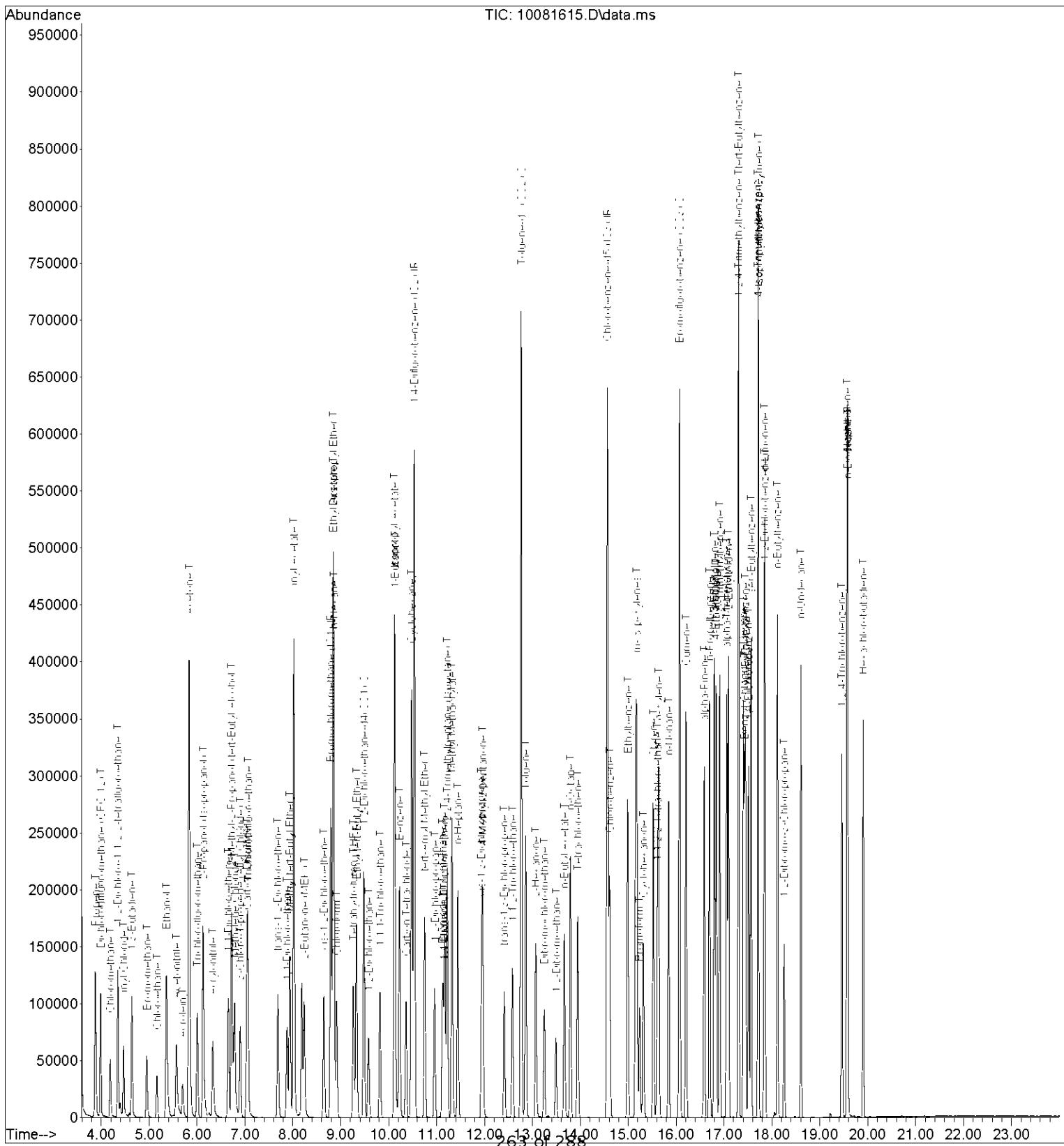
Quant Time: Oct 10 08:50:45 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Mon Oct 10 08:49:43 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
50) Methyl Methacrylate	11.32	100	50065	9.204	ng	100
51) n-Heptane	11.44	71	54653	3.983	ng	100
52) cis-1,3-Dichloropropene	11.94	75	87145	3.820	ng	99
53) 4-Methyl-2-pentanone	11.96	58	51019	4.038	ng	99
54) trans-1,3-Dichloropropene	12.41	75	74423	3.571	ng	100
55) 1,1,2-Trichloroethane	12.58	97	52126	3.945	ng	99
58) Toluene	12.86	91	221097	3.714	ng	99
59) 2-Hexanone	13.07	43	119988	3.827	ng	99
60) Dibromochloromethane	13.24	129	64226	4.230	ng	99
61) 1,2-Dibromoethane	13.49	107	59865	4.004	ng	100
62) n-Butyl Acetate	13.66	43	133971	3.911	ng	100
63) n-Octane	13.79	57	45131	3.561	ng	100
64) Tetrachloroethene	13.94	166	71622	5.296	ng	100
65) Chlorobenzene	14.61	112	154370	4.206	ng	99
66) Ethylbenzene	14.99	91	252703	3.978	ng	100
67) m- & p-Xylenes	15.17	91	388385	7.841	ng	100
68) Bromoform	15.23	173	58226	4.975	ng	100
69) Styrene	15.52	104	168952	4.280	ng	99
70) o-Xylene	15.63	91	197206	3.939	ng	99
71) n-Nonane	15.84	43	105250	3.851	ng	99
72) 1,1,2,2-Tetrachloroethane	15.61	83	93310	3.780	ng	99
74) Cumene	16.20	105	268886	4.342	ng	99
75) alpha-Pinene	16.59	93	137456	4.240	ng	98
76) n-Propylbenzene	16.70	91	312945	4.112	ng	99
77) 3-Ethyltoluene	16.79	105	277764	4.406	ng	100
78) 4-Ethyltoluene	16.83	105	246804	4.264	ng	100
79) 1,3,5-Trimethylbenzene	16.91	105	222595	4.336	ng	99
80) alpha-Methylstyrene	17.05	118	129004	4.731	ng	100
81) 2-Ethyltoluene	17.09	105	266442	4.431	ng	99
82) 1,2,4-Trimethylbenzene	17.30	105	224326	4.386	ng	99
83) n-Decane	17.40	57	115180	3.947	ng	99
84) Benzyl Chloride	17.42	91	182714	3.842	ng	99
85) 1,3-Dichlorobenzene	17.45	146	143829	5.042	ng	99
86) 1,4-Dichlorobenzene	17.51	146	145517	5.038	ng	99
87) sec-Butylbenzene	17.56	105	301480	4.384	ng	99
88) 4-Isopropyltoluene (p-...)	17.71	119	292124	4.660	ng	99
89) 1,2,3-Trimethylbenzene	17.71	105	222837	4.349	ng	100
90) 1,2-Dichlorobenzene	17.84	146	137774	5.070	ng	99
91) d-Limonene	17.85	68	84827	3.611	ng	99
92) 1,2-Dibromo-3-Chloropr...	18.25	157	51101	5.177	ng	97
93) n-Undecane	18.60	57	124045	3.941	ng	100
94) 1,2,4-Trichlorobenzene	19.46	180	112720	5.776	ng	99
95) Naphthalene	19.57	128	350752	5.646	ng	100
96) n-Dodecane	19.58	57	128399	4.346	ng	98
97) Hexachlorobutadiene	19.90	225	75296	6.557	ng	99
98) Cyclohexanone	15.31	55	76477	3.575	ng	99
99) tert-Butylbenzene	17.30	119	228832	4.704	ng	100
100) n-Butylbenzene	18.11	91	238201	4.114	ng	99

(#= qualifier out of range (m)= manual integration (+)= signals summed)

Data File: I:\MS08\Data\2016 10\08\10081615.D
 Acq On : 8 Oct 2016 16:36
 Sample : 5.0ng TO-15 ICAL Standard
 Misc : S29-09081602/S29-10051609 (11/3)
 ALS Vial : 16 Sample Multiplier: 1

Quant Time: Oct 10 08:50:45 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Mon Oct 10 08:49:43 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M



Data File: I:\MS08\Data\2016_10\08\10081616.D
 Acq On : 8 Oct 2016 17:09
 Sample : 25ng TO-15 ICAL Standard
 Misc : S29-09081602/S29-10051603 (11/3)
 ALS Vial : 15 Sample Multiplier: 1

Quant Time: Oct 10 08:50:47 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Mon Oct 10 08:49:43 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane (IS1)	8.80	130	129747	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	10.54	114	566954	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.57	82	240384	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.49	65	161673	9.322	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	74.56%
57) Toluene-d8 (SS2)	12.77	98	587551	11.868	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	94.96%
73) Bromofluorobenzene (SS3)	16.07	174	249137	19.531	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	156.24%#

Target Compounds

					Qvalue
2) Propene	3.87	42	297490	17.281	ng 100
3) Dichlorodifluoromethan...	3.98	85	506209	16.326	ng 100
4) Chloromethane	4.18	50	346646	13.446	ng 100
5) 1,2-Dichloro-1,1,2,2-t...	4.35	135	296986	17.749	ng 100
6) Vinyl Chloride	4.47	62	376245	13.467	ng 100
7) 1,3-Butadiene	4.64	54	314096	18.579	ng 100
8) Bromomethane	4.95	94	238927	15.182	ng 100
9) Chloroethane	5.16	64	205885	18.523	ng 100
10) Ethanol	5.39	45	1028500	96.814	ng 100
11) Acetonitrile	5.59	41	542572	19.354	ng 100
12) Acrolein	5.71	56	183650	18.780	ng 100
13) Acetone	5.85	58	1097939	84.471	ng 100
14) Trichlorofluoromethane	6.01	101	443786	17.568	ng 100
15) 2-Propanol (Isopropanol)	6.14	45	1453756	37.157	ng 100
16) Acrylonitrile	6.34	53	394264	19.535	ng 100
17) 1,1-Dichloroethene	6.66	96	290497	19.820	ng 100
18) 2-Methyl-2-Propanol (t...	6.74	59	1500721	35.907	ng 100
19) Methylene Chloride	6.80	84	290827	18.393	ng 100
20) 3-Chloro-1-propene (Al...	6.91	41	411615	16.866	ng 100
21) Trichlorotrifluoroethane	7.06	151	284488	23.887	ng 100
22) Carbon Disulfide	7.04	76	1050612	18.835	ng 100
23) trans-1,2-Dichloroethene	7.70	61	390127	17.677	ng 100
24) 1,1-Dichloroethane	7.89	63	458160	16.776	ng 100
25) Methyl tert-Butyl Ether	7.93	73	891401	18.627	ng 100
26) Vinyl Acetate	8.03	86	426606	113.653	ng 100
27) 2-Butanone (MEK)	8.24	72	210079	18.831	ng 100
28) cis-1,2-Dichloroethene	8.66	61	370413	17.403	ng 100
29) Diisopropyl Ether	8.85	87	249708	18.318	ng 100
30) Ethyl Acetate	8.84	61	202677	36.572	ng 100
31) n-Hexane	8.86	57	421894	16.074	ng 100
32) Chloroform	8.92	83	477425	17.975	ng 100
34) Tetrahydrofuran (THF)	9.26	72	204949	18.382	ng 100
35) Ethyl tert-Butyl Ether	9.33	87	379485	21.391	ng 100
36) 1,2-Dichloroethane	9.59	62	339975	16.369	ng 100
38) 1,1,1-Trichloroethane	9.82	97	437944	20.920	ng 100
39) Isopropyl Acetate	10.12	61	347510	39.321	ng 100
40) 1-Butanol	10.13	56	643533	39.562	ng 100
41) Benzene	10.23	78	1096771	17.064	ng 100
42) Carbon Tetrachloride	10.37	117	390409	21.440	ng 100
43) Cyclohexane	10.48	84	920316	43.162	ng 100
44) tert-Amyl Methyl Ether	10.75	73	856618	20.458	ng 100
45) 1,2-Dichloropropane	10.96	63	266383	19.818	ng 100
46) Bromodichloromethane	11.12	83	376816	20.134	ng 100
47) Trichloroethene	11.17	130	338622	24.299	ng 100
48) 1,4-Dioxane	11.14	88	253954	22.652	ng 100
49) 2,2,4-Trimethylpentane...	11.22	57	1128690	20.943	ng 100

Data File: I:\MS08\Data\2016_10\08\10081616.D
 Acq On : 8 Oct 2016 17:09
 Sample : 25ng TO-15 ICAL Standard
 Misc : S29-09081602/S29-10051603 (11/3)
 ALS Vial : 15 Sample Multiplier: 1

Operator: WA

Quant Time: Oct 10 08:50:47 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Mon Oct 10 08:49:43 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

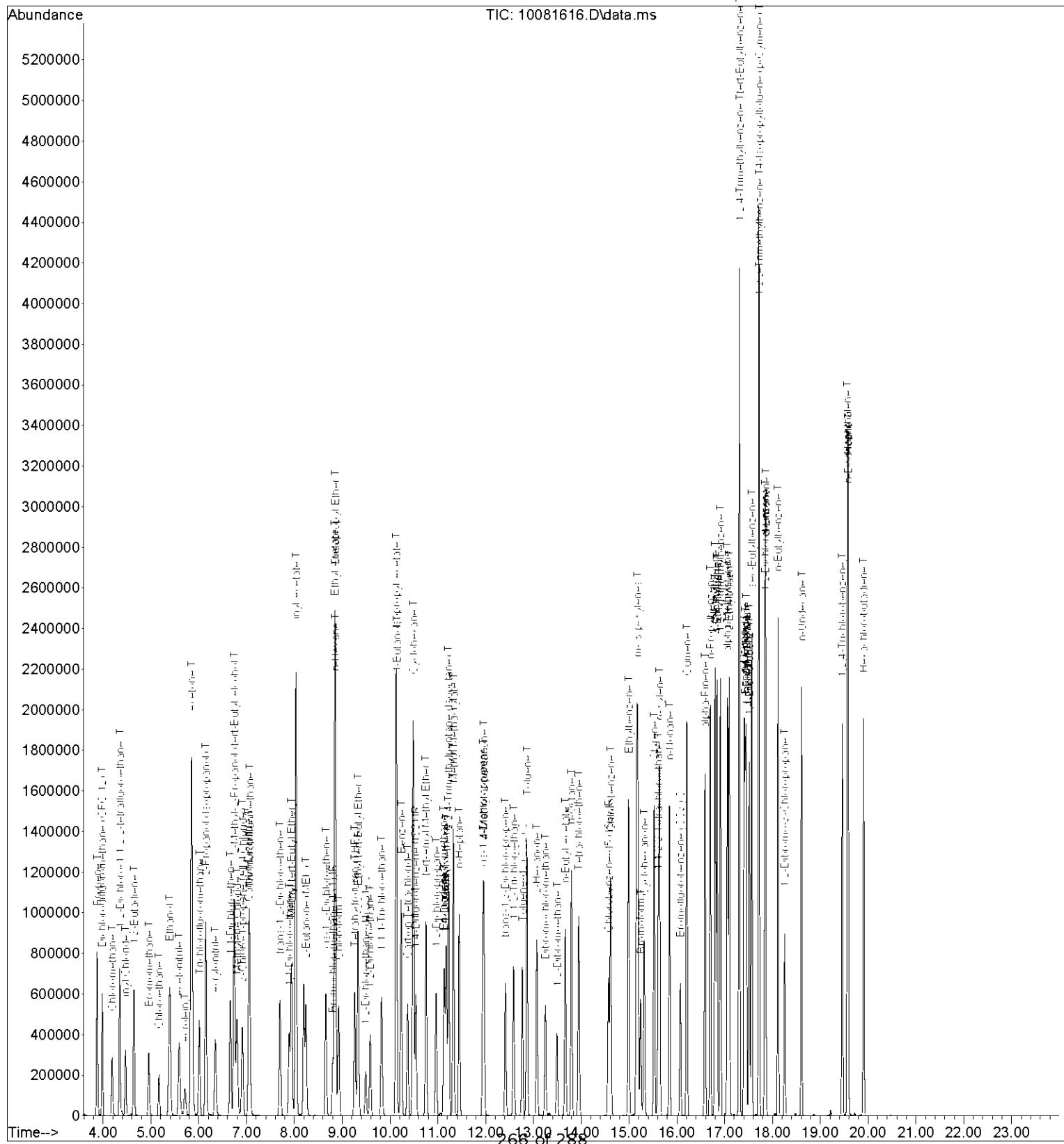
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
50) Methyl Methacrylate	11.32	100	272086	49.840	ng	100
51) n-Heptane	11.45	71	280169	20.346	ng	100
52) cis-1,3-Dichloropropene	11.94	75	487722	21.302	ng	100
53) 4-Methyl-2-pentanone	11.96	58	276946	21.841	ng	100
54) trans-1,3-Dichloropropene	12.41	75	431781	20.644	ng	100
55) 1,1,2-Trichloroethane	12.58	97	284521	21.455	ng	100
58) Toluene	12.86	91	1185083	19.378	ng	100
59) 2-Hexanone	13.07	43	649068	20.150	ng	100
60) Dibromochloromethane	13.25	129	366223	23.478	ng	100
61) 1,2-Dibromoethane	13.49	107	334300	21.761	ng	100
62) n-Butyl Acetate	13.66	43	733422	20.840	ng	100
63) n-Octane	13.79	57	239830	18.419	ng	100
64) Tetrachloroethene	13.94	166	390010	28.066	ng	100
65) Chlorobenzene	14.61	112	847376	22.472	ng	100
66) Ethylbenzene	14.99	91	1385537	21.228	ng	100
67) m- & p-Xylenes	15.17	91	2154497	42.336	ng	100
68) Bromoform	15.24	173	347422	28.889	ng	100
69) Styrene	15.53	104	956493	23.581	ng	100
70) o-Xylene	15.63	91	1090361	21.197	ng	100
71) n-Nonane	15.84	43	567228	20.201	ng	100
72) 1,1,2,2-Tetrachloroethane	15.61	83	516351	20.358	ng	100
74) Cumene	16.20	105	1486430	23.360	ng	100
75) alpha-Pinene	16.59	93	763757	22.929	ng	100
76) n-Propylbenzene	16.70	91	1721707	22.019	ng	100
77) 3-Ethyltoluene	16.79	105	1512417	23.348	ng	100
78) 4-Ethyltoluene	16.84	105	1408016	23.678	ng	100
79) 1,3,5-Trimethylbenzene	16.91	105	1235293	23.417	ng	100
80) alpha-Methylstyrene	17.05	118	736138	26.274	ng	100
81) 2-Ethyltoluene	17.09	105	1469956	23.794	ng	100
82) 1,2,4-Trimethylbenzene	17.31	105	1261835	24.014	ng	100
83) n-Decane	17.40	57	621753	20.735	ng	100
84) Benzyl Chloride	17.43	91	1129851	23.121	ng	100
85) 1,3-Dichlorobenzene	17.45	146	810342	27.649	ng	100
86) 1,4-Dichlorobenzene	17.51	146	818451	27.577	ng	100
87) sec-Butylbenzene	17.56	105	1671311	23.653	ng	100
88) 4-Isopropyltoluene (p-...)	17.71	119	1620981	25.166	ng	100
89) 1,2,3-Trimethylbenzene	17.71	105	1246266	23.672	ng	100
90) 1,2-Dichlorobenzene	17.84	146	778565	27.887	ng	100
91) d-Limonene	17.85	68	468853	19.425	ng	100
92) 1,2-Dibromo-3-Chloropr...	18.25	157	302896	29.865	ng	100
93) n-Undecane	18.61	57	674549	20.859	ng	100
94) 1,2,4-Trichlorobenzene	19.46	180	670472	33.436	ng	100
95) Naphthalene	19.57	128	2011252	31.509	ng	100
96) n-Dodecane	19.58	57	682966	22.500	ng	100
97) Hexachlorobutadiene	19.90	225	430589	36.494	ng	100
98) Cyclohexanone	15.32	55	423511	19.268	ng	100
99) tert-Butylbenzene	17.31	119	1283418	25.679	ng	100
100) n-Butylbenzene	18.11	91	1308135	21.991	ng	100

(#= qualifier out of range (m)= manual integration (+)= signals summed)

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016 10\08\10081616.D
 Acq On : 8 Oct 2016 17:09
 Sample : 25ng TO-15 ICAL Standard
 Misc : S29-09081602/S29-10051603 (11/3)
 ALS Vial : 15 Sample Multiplier: 1

Quant Time: Oct 10 08:50:47 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Mon Oct 10 08:49:43 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M



Data File: I:\MS08\Data\2016_10\08\10081617.D
 Acq On : 8 Oct 2016 17:41 Operator: WA
 Sample : 50ng TO-15 ICAL Standard
 Misc : S29-09081602/S29-10051603 (11/3)
 ALS Vial : 15 Sample Multiplier: 1

Quant Time: Oct 10 08:50:49 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Mon Oct 10 08:49:43 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	8.81	130	133608	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	10.54	114	598456	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.57	82	251893	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.49	65	167169	9.361	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	74.88%
57) Toluene-d8 (SS2)	12.77	98	619404	11.940	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	95.52%
73) Bromofluorobenzene (SS3)	16.07	174	264658	19.800	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	158.40%#

Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	3.87	42	588860	33.218	ng	99
3) Dichlorodifluoromethan...	3.98	85	991602	31.056	ng	100
4) Chloromethane	4.18	50	618130	23.284	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.35	135	596459	34.617	ng	100
6) Vinyl Chloride	4.47	62	725846	25.229	ng	99
7) 1,3-Butadiene	4.64	54	622058	35.733	ng	99
8) Bromomethane	4.95	94	481814	29.731	ng	99
9) Chloroethane	5.17	64	407539	35.606	ng	100
10) Ethanol	5.41	45	1978626	180.868	ng	100
11) Acetonitrile	5.60	41	1071831	37.127	ng	99
12) Acrolein	5.72	56	362818	36.030	ng	100
13) Acetone	5.86	58	2096084	156.605	ng	97
14) Trichlorofluoromethane	6.01	101	899231	34.569	ng	100
15) 2-Propanol (Isopropanol)	6.16	45	2791080	69.276	ng	100
16) Acrylonitrile	6.35	53	780510	37.556	ng	99
17) 1,1-Dichloroethene	6.66	96	577374	38.256	ng	98
18) 2-Methyl-2-Propanol (t...	6.75	59	2870768	66.703	ng	99
19) Methylene Chloride	6.81	84	578844	35.550	ng	99
20) 3-Chloro-1-propene (Al...	6.91	41	820977	32.668	ng	99
21) Trichlorotrifluoroethane	7.07	151	567510	46.273	ng	98
22) Carbon Disulfide	7.05	76	2059389	35.852	ng	100
23) trans-1,2-Dichloroethene	7.70	61	774346	34.072	ng	100
24) 1,1-Dichloroethane	7.89	63	913511	32.482	ng	99
25) Methyl tert-Butyl Ether	7.94	73	1754462	35.603	ng	100
26) Vinyl Acetate	8.04	86	852517	220.558	ng	# 92
27) 2-Butanone (MEK)	8.25	72	421912	36.725	ng	97
28) cis-1,2-Dichloroethene	8.66	61	732111	33.403	ng	99
29) Diisopropyl Ether	8.85	87	495609	35.307	ng	# 93
30) Ethyl Acetate	8.85	61	399650	70.030	ng	99
31) n-Hexane	8.86	57	845196	31.272	ng	100
32) Chloroform	8.93	83	950571	34.754	ng	100
34) Tetrahydrofuran (THF)	9.26	72	409405	35.658	ng	99
35) Ethyl tert-Butyl Ether	9.33	87	760113	41.608	ng	98
36) 1,2-Dichloroethane	9.59	62	678095	31.705	ng	100
38) 1,1,1-Trichloroethane	9.83	97	874798	39.589	ng	99
39) Isopropyl Acetate	10.13	61	683641	73.282	ng	98
40) 1-Butanol	10.15	56	1261550	73.474	ng	99
41) Benzene	10.23	78	2217075	32.678	ng	100
42) Carbon Tetrachloride	10.37	117	790620	41.132	ng	100
43) Cyclohexane	10.48	84	1832792	81.432	ng	97
44) tert-Amyl Methyl Ether	10.75	73	1688790	38.208	ng	99
45) 1,2-Dichloropropane	10.96	63	533274	37.586	ng	100
46) Bromodichloromethane	11.13	83	754583	38.197	ng	100
47) Trichloroethene	11.18	130	689468	46.872	ng	99
48) 1,4-Dioxane	11.14	88	509398	43.045	ng	98
49) 2,2,4-Trimethylpentane...	11.23	57	2334622	38.646	ng	100

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Data File: I:\MS08\Data\2016_10\08\10081617.D
 Acq On : 8 Oct 2016 17:41
 Sample : 50ng TO-15 ICAL Standard
 Misc : S29-09081602/S29-10051603 (11/3)
 ALS Vial : 15 Sample Multiplier: 1

Operator: WA

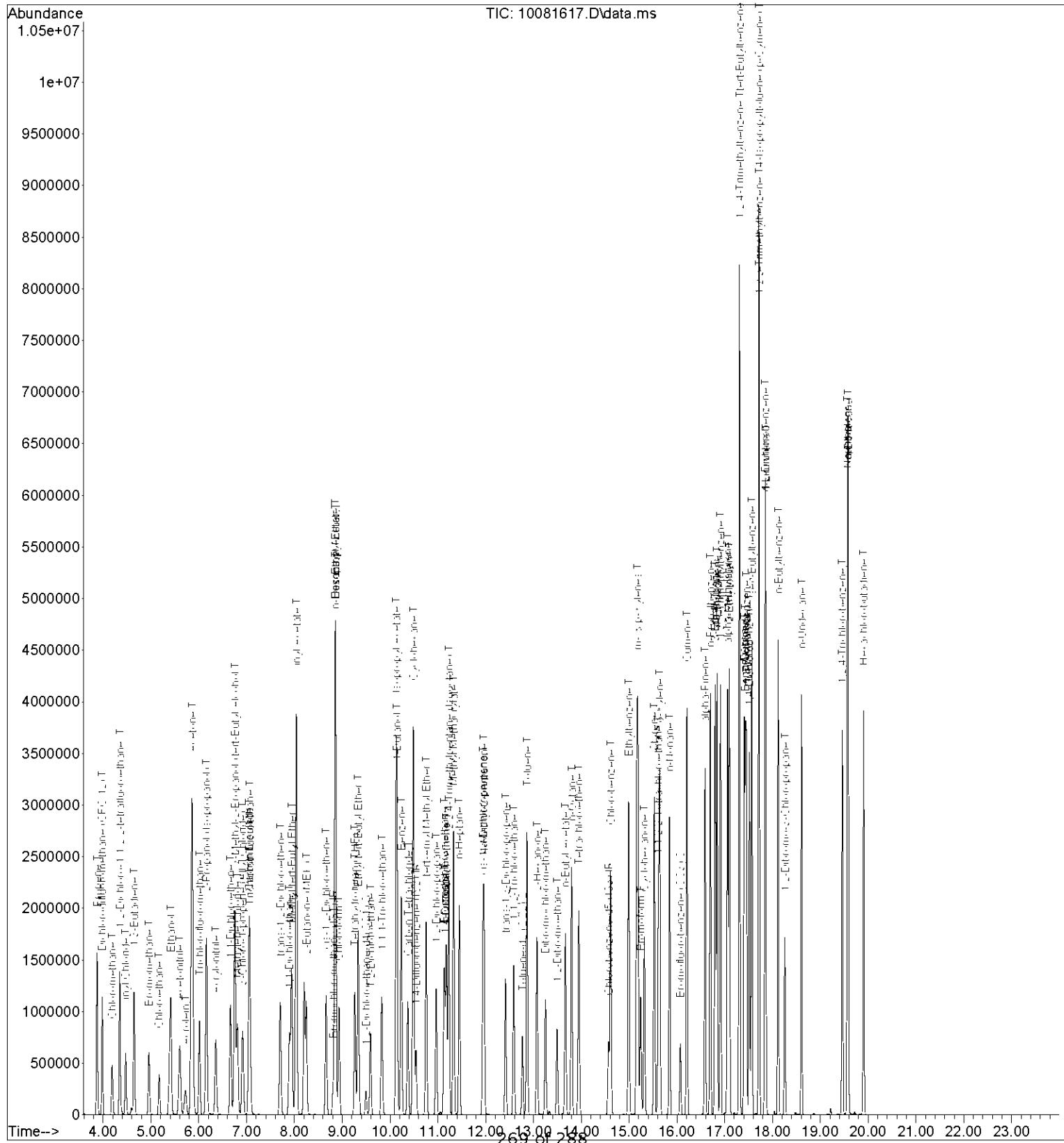
Quant Time: Oct 10 08:50:49 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Mon Oct 10 08:49:43 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	11.33	100	554288	96.189	ng	98
51) n-Heptane	11.45	71	570946	39.279	ng	100
52) cis-1,3-Dichloropropene	11.94	75	982989	40.673	ng	100
53) 4-Methyl-2-pentanone	11.96	58	545279	40.738	ng	99
54) trans-1,3-Dichloropropene	12.42	75	872115	39.503	ng	100
55) 1,1,2-Trichloroethane	12.59	97	579055	41.367	ng	99
58) Toluene	12.86	91	2394197	37.360	ng	100
59) 2-Hexanone	13.07	43	1266401	37.518	ng	99
60) Dibromochloromethane	13.25	129	741222	45.347	ng	99
61) 1,2-Dibromoethane	13.49	107	677511	42.087	ng	99
62) n-Butyl Acetate	13.66	43	1433444	38.870	ng	99
63) n-Octane	13.80	57	485919	35.613	ng	99
64) Tetrachloroethene	13.95	166	803367	55.170	ng	100
65) Chlorobenzene	14.61	112	1696952	42.947	ng	100
66) Ethylbenzene	14.99	91	2764501	40.420	ng	100
67) m- & p-Xylenes	15.18	91	4276063	80.185	ng	99
68) Bromoform	15.24	173	707448	56.138	ng	100
69) Styrene	15.53	104	1911812	44.979	ng	100
70) o-Xylene	15.64	91	2174038	40.334	ng	100
71) n-Nonane	15.84	43	1102776	37.480	ng	99
72) 1,1,2,2-Tetrachloroethane	15.61	83	1021436	38.432	ng	99
74) Cumene	16.21	105	2924533	43.861	ng	99
75) alpha-Pinene	16.59	93	1519215	43.525	ng	100
76) n-Propylbenzene	16.70	91	3376006	41.204	ng	99
77) 3-Ethyltoluene	16.80	105	2924478	43.084	ng	99
78) 4-Ethyltoluene	16.84	105	2847982	45.705	ng	99
79) 1,3,5-Trimethylbenzene	16.91	105	2442937	44.194	ng	100
80) alpha-Methylstyrene	17.06	118	1459209	49.702	ng	99
81) 2-Ethyltoluene	17.10	105	2890532	44.651	ng	100
82) 1,2,4-Trimethylbenzene	17.31	105	2500034	45.404	ng	100
83) n-Decane	17.41	57	1212050	38.575	ng	100
84) Benzyl Chloride	17.43	91	2278414	44.494	ng	100
85) 1,3-Dichlorobenzene	17.45	146	1619264	52.725	ng	100
86) 1,4-Dichlorobenzene	17.52	146	1645922	52.923	ng	99
87) sec-Butylbenzene	17.56	105	3269492	44.157	ng	99
88) 4-Isopropyltoluene (p-...)	17.71	119	3189773	47.260	ng	99
89) 1,2,3-Trimethylbenzene	17.71	105	2450424	44.417	ng	99
90) 1,2-Dichlorobenzene	17.84	146	1552931	53.083	ng	100
91) d-Limonene	17.85	68	907119	35.866	ng	98
92) 1,2-Dibromo-3-Chloropr...	18.26	157	604191	56.851	ng	99
93) n-Undecane	18.61	57	1292123	38.131	ng	99
94) 1,2,4-Trichlorobenzene	19.46	180	1339623	63.753	ng	100
95) Naphthalene	19.57	128	3964298	59.269	ng	99
96) n-Dodecane	19.58	57	1297418	40.789	ng	99
97) Hexachlorobutadiene	19.90	225	858380	69.427	ng	100
98) Cyclohexanone	15.32	55	829884	36.031	ng	99
99) tert-Butylbenzene	17.31	119	2549863	48.687	ng	100
100) n-Butylbenzene	18.12	91	2551357	40.931	ng	100

(#= qualifier out of range (m)= manual integration (+)= signals summed)

Data File: I:\MS08\Data\2016 10\08\10081617.D
 Acq On : 8 Oct 2016 17:41
 Sample : 50ng TO-15 ICAL Standard
 Misc : S29-09081602/S29-10051603 (11/3)
 ALS Vial : 15 Sample Multiplier: 1

Quant Time: Oct 10 08:50:49 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Mon Oct 10 08:49:43 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M



Data File: I:\MS08\Data\2016_10\08\10081618.D
 Acq On : 8 Oct 2016 18:13 Operator: WA
 Sample : 100ng TO-15 ICAL Standard
 Misc : S29-09081602/S29-10051603 (11/3)
 ALS Vial : 15 Sample Multiplier: 1

Quant Time: Oct 10 08:50:51 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Mon Oct 10 08:49:43 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane (IS1)	8.82	130	137335	12.500	ng	0.02
37) 1,4-Difluorobenzene (IS2)	10.54	114	622591	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.57	82	258910	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.50	65	1711782	9.358	ng	0.01
Spiked Amount	12.500	Range	70 - 130	Recovery	=	74.88%
57) Toluene-d8 (SS2)	12.77	98	640543	12.013	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	96.08%
73) Bromofluorobenzene (SS3)	16.07	174	268583	19.549	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	156.40%#

Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	3.88	42	1384089	75.959	ng	99
3) Dichlorodifluoromethan...	3.99	85	1942521	59.187	ng	100
4) Chloromethane	4.20	50	931207	34.125	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.35	135	1196559	67.561	ng	99
6) Vinyl Chloride	4.48	62	1485707	50.240	ng	99
7) 1,3-Butadiene	4.66	54	1271208	71.040	ng	98
8) Bromomethane	4.97	94	961496	57.721	ng	98
9) Chloroethane	5.18	64	806655	68.564	ng	98
10) Ethanol	5.44	45	3790656	337.103	ng	100
11) Acetonitrile	5.62	41	2128147	71.717	ng	99
12) Acrolein	5.73	56	715627	69.138	ng	100
13) Acetone	5.88	58	3940440	286.413	ng	94
14) Trichlorofluoromethane	6.02	101	1795568	67.153	ng	100
15) 2-Propanol (Isopropanol)	6.18	45	4531055	109.412	ng	100
16) Acrylonitrile	6.37	53	1549990	72.557	ng	99
17) 1,1-Dichloroethene	6.67	96	1150046	74.132	ng	97
18) 2-Methyl-2-Propanol (t...	6.77	59	4800199	108.507	ng	99
19) Methylene Chloride	6.82	84	1152108	68.837	ng	97
20) 3-Chloro-1-propene (Al...	6.93	41	1635880	63.327	ng	98
21) Trichlorotrifluoroethane	7.07	151	1140738	90.489	ng	98
22) Carbon Disulfide	7.05	76	4032854	68.303	ng	100
23) trans-1,2-Dichloroethene	7.71	61	1516453	64.915	ng	98
24) 1,1-Dichloroethane	7.90	63	1796919	62.159	ng	100
25) Methyl tert-Butyl Ether	7.95	73	3453540	68.181	ng	100
26) Vinyl Acetate	8.05	86	1671480	420.700	ng	# 76
27) 2-Butanone (MEK)	8.26	72	836467	70.834	ng	95
28) cis-1,2-Dichloroethene	8.67	61	1449055	64.320	ng	98
29) Diisopropyl Ether	8.85	87	972418	67.394	ng	# 78
30) Ethyl Acetate	8.87	61	750381	127.920	ng	97
31) n-Hexane	8.87	57	1599373	57.570	ng	99
32) Chloroform	8.95	83	1886494	67.101	ng	99
34) Tetrahydrofuran (THF)	9.27	72	811117	68.729	ng	98
35) Ethyl tert-Butyl Ether	9.34	87	1509773	80.401	ng	96
36) 1,2-Dichloroethane	9.60	62	1335775	60.761	ng	100
38) 1,1,1-Trichloroethane	9.83	97	1741020	75.735	ng	99
39) Isopropyl Acetate	10.14	61	1311986	135.184	ng	# 93
40) 1-Butanol	10.17	56	2454611	137.417	ng	98
41) Benzene	10.24	78	4397839	62.308	ng	99
42) Carbon Tetrachloride	10.38	117	1591882	79.608	ng	100
43) Cyclohexane	10.50	84	3575182	152.690	ng	95
44) tert-Amyl Methyl Ether	10.76	73	3327953	72.375	ng	99
45) 1,2-Dichloropropane	10.97	63	1064964	72.151	ng	100
46) Bromodichloromethane	11.14	83	1506573	73.307	ng	100
47) Trichloroethene	11.18	130	1403085	91.687	ng	99
48) 1,4-Dioxane	11.15	88	1005580	81.679	ng	97
49) 2,2,4-Trimethylpentane...	11.23	57	4523498	71.975	ng	100

Data File: I:\MS08\Data\2016_10\08\10081618.D
 Acq On : 8 Oct 2016 18:13
 Sample : 100ng TO-15 ICAL Standard
 Misc : S29-09081602/S29-10051603 (11/3)
 ALS Vial : 15 Sample Multiplier: 1

Operator: WA

Quant Time: Oct 10 08:50:51 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Mon Oct 10 08:49:43 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

	Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50)	Methyl Methacrylate	11.33	100	1113416	185.727	ng	94
51)	n-Heptane	11.45	71	1142356	75.544	ng	99
52)	cis-1,3-Dichloropropene	11.95	75	1938412	77.096	ng	100
53)	4-Methyl-2-pentanone	11.97	58	1058774	76.036	ng	97
54)	trans-1,3-Dichloropropene	12.42	75	1734067	75.500	ng	99
55)	1,1,2-Trichloroethane	12.59	97	1155161	79.325	ng	99
58)	Toluene	12.87	91	4732587	71.847	ng	100
59)	2-Hexanone	13.08	43	2454998	70.760	ng	98
60)	Dibromochloromethane	13.26	129	1496656	89.083	ng	100
61)	1,2-Dibromoethane	13.50	107	1362373	82.338	ng	98
62)	n-Butyl Acetate	13.67	43	2753358	72.638	ng	98
63)	n-Octane	13.80	57	947184	67.538	ng	97
64)	Tetrachloroethene	13.95	166	1629987	108.903	ng	100
65)	Chlorobenzene	14.62	112	3379443	83.210	ng	99
66)	Ethylbenzene	14.99	91	5411070	76.972	ng	99
67)	m- & p-Xylenes	15.18	91	8402122	153.287	ng	99
68)	Bromoform	15.25	173	1442182	111.340	ng	100
69)	Styrene	15.53	104	3768840	86.266	ng	99
70)	o-Xylene	15.64	91	4246082	76.640	ng	99
71)	n-Nonane	15.85	43	2075873	68.640	ng	97
72)	1,1,2,2-Tetrachloroethane	15.62	83	2009245	73.550	ng	99
74)	Cumene	16.21	105	5716335	83.408	ng	98
75)	alpha-Pinene	16.59	93	2977084	82.981	ng	100
76)	n-Propylbenzene	16.70	91	6490552	77.070	ng	98
77)	3-Ethyltoluene	16.80	105	5796699	83.084	ng	98
78)	4-Ethyltoluene	16.84	105	5440784	84.949	ng	98
79)	1,3,5-Trimethylbenzene	16.91	105	4804673	84.564	ng	99
80)	alpha-Methylstyrene	17.06	118	2902346	96.178	ng	99
81)	2-Ethyltoluene	17.10	105	5633343	84.662	ng	98
82)	1,2,4-Trimethylbenzene	17.31	105	4835370	85.437	ng	98
83)	n-Decane	17.41	57	2258151	69.921	ng	98
84)	Benzyl Chloride	17.44	91	4456739	84.675	ng	98
85)	1,3-Dichlorobenzene	17.46	146	3239026	102.607	ng	100
86)	1,4-Dichlorobenzene	17.52	146	3258010	101.919	ng	100
87)	sec-Butylbenzene	17.57	105	6275998	82.464	ng	98
88)	4-Isopropyltoluene (p-...)	17.72	119	6160462	88.800	ng	98
89)	1,2,3-Trimethylbenzene	17.72	105	4748957	83.748	ng	98
90)	1,2-Dichlorobenzene	17.85	146	3081705	102.485	ng	100
91)	d-Limonene	17.86	68	1672045	64.318	ng	93
92)	1,2-Dibromo-3-Chloropr...	18.26	157	1213002	111.043	ng	97
93)	n-Undecane	18.61	57	2395294	68.770	ng	97
94)	1,2,4-Trichlorobenzene	19.46	180	2682764	124.214	ng	99
95)	Naphthalene	19.57	128	7630431	110.989	ng	98
96)	n-Dodecane	19.58	57	2278967	69.706	ng	95
97)	Hexachlorobutadiene	19.90	225	1743373	137.186	ng	99
98)	Cyclohexanone	15.33	55	1613169	68.140	ng	98
99)	tert-Butylbenzene	17.31	119	4998196	92.848	ng	99
100)	n-Butylbenzene	18.12	91	4878595	76.146	ng	98

(#= qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2016_10\08\10081618
Acq On : 8 Oct 2016 18:13
Sample : 100ng TO-15 ICAL Standard
Misc : S29-09081602/S29-10051603 (11/3)
ALS Vial : 15 Sample Multiplier: 1

Operator: WA

Quant Time: Oct 10 08:50:51 2016

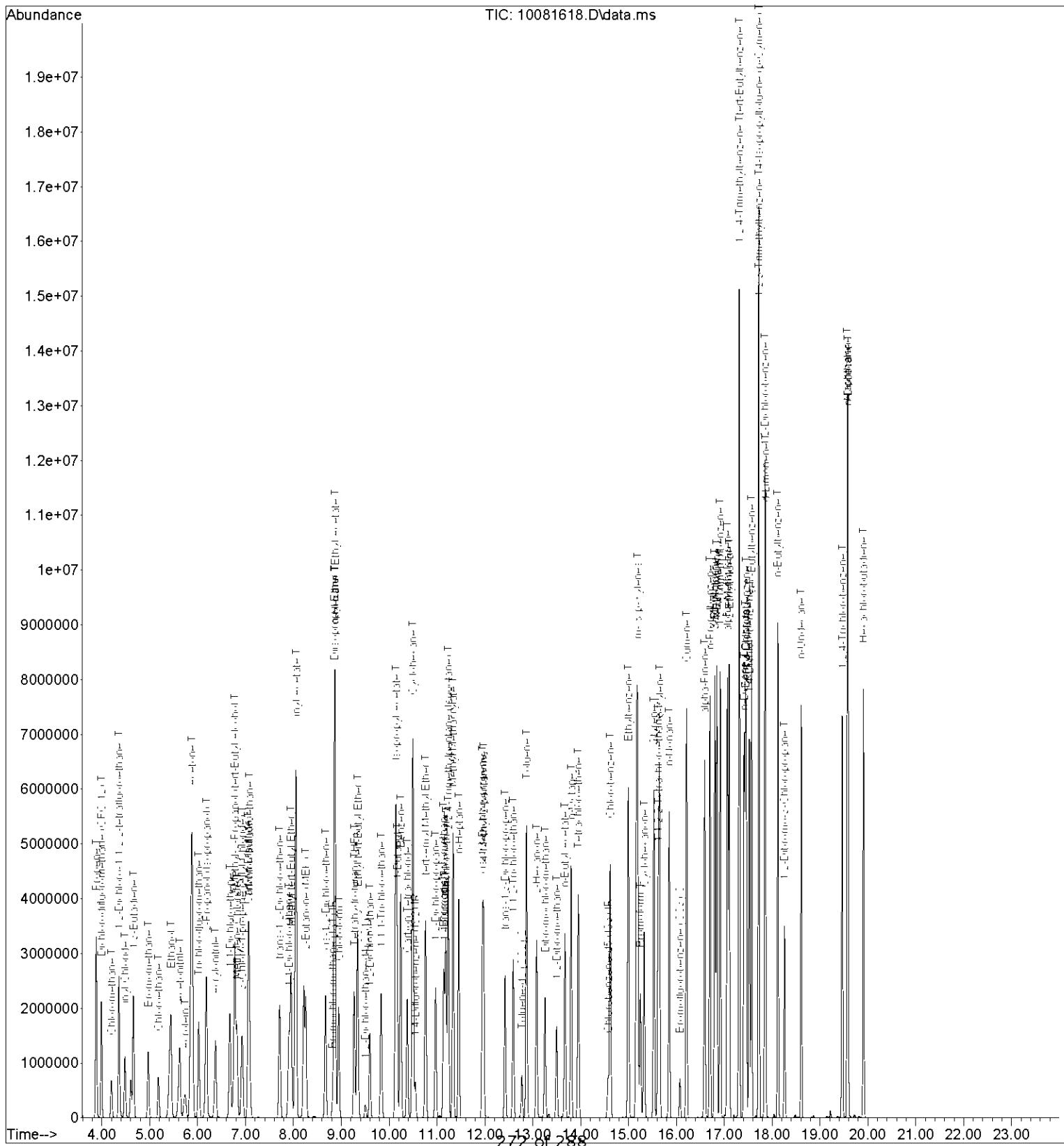
Quant Method : I:\MS08\Methods\R8100816.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Last Update : Mon Oct 10 08:49:43 2016

Response via : Initial Calibration

DataAcq Meth:TO15.M



Data File: I:\MS08\Data\2016_10\08\10081619.D
 Acq On : 8 Oct 2016 18:46
 Sample : 25ng TO-15 ICV Standard
 Misc : S29-09081602/S29-10061609 (11/4)
 ALS Vial : 1 Sample Multiplier: 1

Operator: WA

Quant Time: Oct 12 16:10:31 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane (IS1)	8.80	130	144544	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	10.54	114	637604	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.57	82	266742	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.49	65	177048	12.229	ng	-0.01
Spiked Amount	12.500	Range	70 - 130	Recovery	=	97.84%
57) Toluene-d8 (SS2)	12.77	98	659725	12.431	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	99.44%
73) Bromofluorobenzene (SS3)	16.07	174	279642	12.752	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	102.00%

Target Compounds

						Qvalue
2) Propene	3.87	42	314794	22.913	ng	100
3) Dichlorodifluoromethan...	3.98	85	532919	24.487	ng	100
4) Chloromethane	4.18	50	395793	28.245	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	333035	24.778	ng	99
6) Vinyl Chloride	4.46	62	419761	27.079	ng	100
7) 1,3-Butadiene	4.64	54	340907	28.463	ng	100
8) Bromomethane	4.95	94	276704	27.139	ng	98
9) Chloroethane	5.16	64	228705	24.753	ng	100
10) Ethanol	5.39	45	1112537	121.799	ng	100
11) Acetonitrile	5.58	41	578778	24.488	ng	100
12) Acrolein	5.71	56	197880	25.995	ng	100
13) Acetone	5.85	58	1156955	113.875	ng	97
14) Trichlorofluoromethane	6.01	101	478179	24.256	ng	99
15) 2-Propanol (Isopropanol)	6.14	45	1539484	54.550	ng	100
16) Acrylonitrile	6.34	53	415665	26.882	ng	99
17) 1,1-Dichloroethene	6.65	96	310987	26.648	ng	98
18) 2-Methyl-2-Propanol (t...	6.73	59	1591014	54.783	ng	100
19) Methylene Chloride	6.80	84	312906	25.839	ng	98
20) 3-Chloro-1-propene (Al...	6.91	41	448411	31.912	ng	98
21) Trichlorotrifluoroethane	7.06	151	307426	25.154	ng	98
22) Carbon Disulfide	7.04	76	1120823	24.898	ng	100
23) trans-1,2-Dichloroethene	7.70	61	411243	27.731	ng	100
24) 1,1-Dichloroethane	7.89	63	499527	24.826	ng	100
25) Methyl tert-Butyl Ether	7.93	73	933307	25.102	ng	100
26) Vinyl Acetate	8.03	86	447831	133.588	ng	100
27) 2-Butanone (MEK)	8.24	72	224284	28.460	ng	97
28) cis-1,2-Dichloroethene	8.66	61	388716	25.562	ng	100
29) Diisopropyl Ether	8.84	87	266913	24.683	ng	95
30) Ethyl Acetate	8.84	61	214559	52.494	ng	100
31) n-Hexane	8.86	57	440819	22.000	ng	100
32) Chloroform	8.92	83	498687	24.960	ng	99
34) Tetrahydrofuran (THF)	9.26	72	214936	25.187	ng	98
35) Ethyl tert-Butyl Ether	9.33	87	401644	25.844	ng	98
36) 1,2-Dichloroethane	9.58	62	357175	25.200	ng	99
38) 1,1,1-Trichloroethane	9.82	97	451141	25.746	ng	99
39) Isopropyl Acetate	10.12	61	362754	51.645	ng	99
40) 1-Butanol	10.13	56	702274	65.155	ng	98
41) Benzene	10.23	78	1177038	23.164	ng	100
42) Carbon Tetrachloride	10.37	117	415539	26.449	ng	99
43) Cyclohexane	10.48	84	978109	49.504	ng	98
44) tert-Amyl Methyl Ether	10.75	73	905596	26.040	ng	99
45) 1,2-Dichloropropane	10.96	63	281067	25.185	ng	99
46) Bromodichloromethane	11.12	83	399036	27.758	ng	100
47) Trichloroethene	11.17	130	362012	22.132	ng	99
48) 1,4-Dioxane	11.14	88	270972	27.938	ng	98
49) 2,2,4-Trimethylpentane...	11.22	57	1256298	24.925	ng	99

Data File: I:\MS08\Data\2016_10\08\10081619.D
 Acq On : 8 Oct 2016 18:46
 Sample : 25ng TO-15 ICV Standard
 Misc : S29-09081602/S29-10061609 (11/4)
 ALS Vial : 1 Sample Multiplier: 1

Operator: WA

Quant Time: Oct 12 16:10:31 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	11.32	100	294495	55.457	ng	96
51) n-Heptane	11.45	71	296736	24.981	ng	100
52) cis-1,3-Dichloropropene	11.94	75	488431	26.951	ng	100
53) 4-Methyl-2-pentanone	11.96	58	292385	26.490	ng	98
54) trans-1,3-Dichloropropene	12.41	75	456754	29.150	ng	100
55) 1,1,2-Trichloroethane	12.58	97	306683	27.211	ng	98
58) Toluene	12.86	91	1264003	24.263	ng	100
59) 2-Hexanone	13.07	43	680307	27.489	ng	99
60) Dibromochloromethane	13.24	129	388349	28.629	ng	99
61) 1,2-Dibromoethane	13.49	107	357967	28.331	ng	98
62) n-Butyl Acetate	13.66	43	772789	27.510	ng	99
63) n-Octane	13.79	57	252860	24.873	ng	98
64) Tetrachloroethene	13.94	166	420601	24.939	ng	100
65) Chlorobenzene	14.61	112	901350	24.963	ng	100
66) Ethylbenzene	14.99	91	1466658	25.526	ng	99
67) m- & p-Xylenes	15.17	91	2273483	51.465	ng	100
68) Bromoform	15.24	173	367316	30.528	ng	100
69) Styrene	15.53	104	1009833	28.242	ng	100
70) o-Xylene	15.63	91	1156199	25.479	ng	100
71) n-Nonane	15.84	43	591328	25.621	ng	100
72) 1,1,2,2-Tetrachloroethane	15.61	83	539462	26.962	ng	99
74) Cumene	16.20	105	1575455	25.574	ng	100
75) alpha-Pinene	16.58	93	823972	26.290	ng	100
76) n-Propylbenzene	16.70	91	1805454	25.901	ng	99
77) 3-Ethyltoluene	16.79	105	1571672	25.860	ng	100
78) 4-Ethyltoluene	16.84	105	1526988	26.288	ng	100
79) 1,3,5-Trimethylbenzene	16.91	105	1305066	25.577	ng	100
80) alpha-Methylstyrene	17.05	118	785086	28.940	ng	99
81) 2-Ethyltoluene	17.09	105	1552592	25.955	ng	100
82) 1,2,4-Trimethylbenzene	17.31	105	1334268	26.464	ng	100
83) n-Decane	17.40	57	654825	26.048	ng	99
84) Benzyl Chloride	17.43	91	1193672	29.751	ng	100
85) 1,3-Dichlorobenzene	17.45	146	849536	26.149	ng	100
86) 1,4-Dichlorobenzene	17.51	146	860516	25.801	ng	99
87) sec-Butylbenzene	17.56	105	1764904	26.013	ng	100
88) 4-Isopropyltoluene (p-...)	17.71	119	1740108	26.317	ng	100
89) 1,2,3-Trimethylbenzene	17.71	105	1353545	26.657	ng	100
90) 1,2-Dichlorobenzene	17.84	146	816353	26.240	ng	100
91) d-Limonene	17.85	68	506189	27.271	ng	100
92) 1,2-Dibromo-3-Chloropr...	18.25	157	322431	28.261	ng	99
93) n-Undecane	18.60	57	695213	25.602	ng	100
94) 1,2,4-Trichlorobenzene	19.46	180	696159	27.612	ng	100
95) Naphthalene	19.57	128	1993030	27.607	ng	100
96) n-Dodecane	19.58	57	715436	26.102	ng	100
97) Hexachlorobutadiene	19.90	225	448910	26.000	ng	99
98) Cyclohexanone	15.31	55	451288	28.315	ng	99
99) tert-Butylbenzene	17.31	119	1372867	26.076	ng	100
100) n-Butylbenzene	18.11	91	1368959	26.873	ng	99

(#= qualifier out of range (m)= manual integration (+)= signals summed)

Data File: I:\MS08\Data\2016_10\08\10081619
Acq On : 8 Oct 2016 18:46
Sample : 25ng TO-15 ICV Standard
Misc : S29-09081602/S29-10061609 (11/4)
ALS Vial : 1 Sample Multiplier: 1

Operator: WA

Quant Time: Oct 12 16:10:31 2016

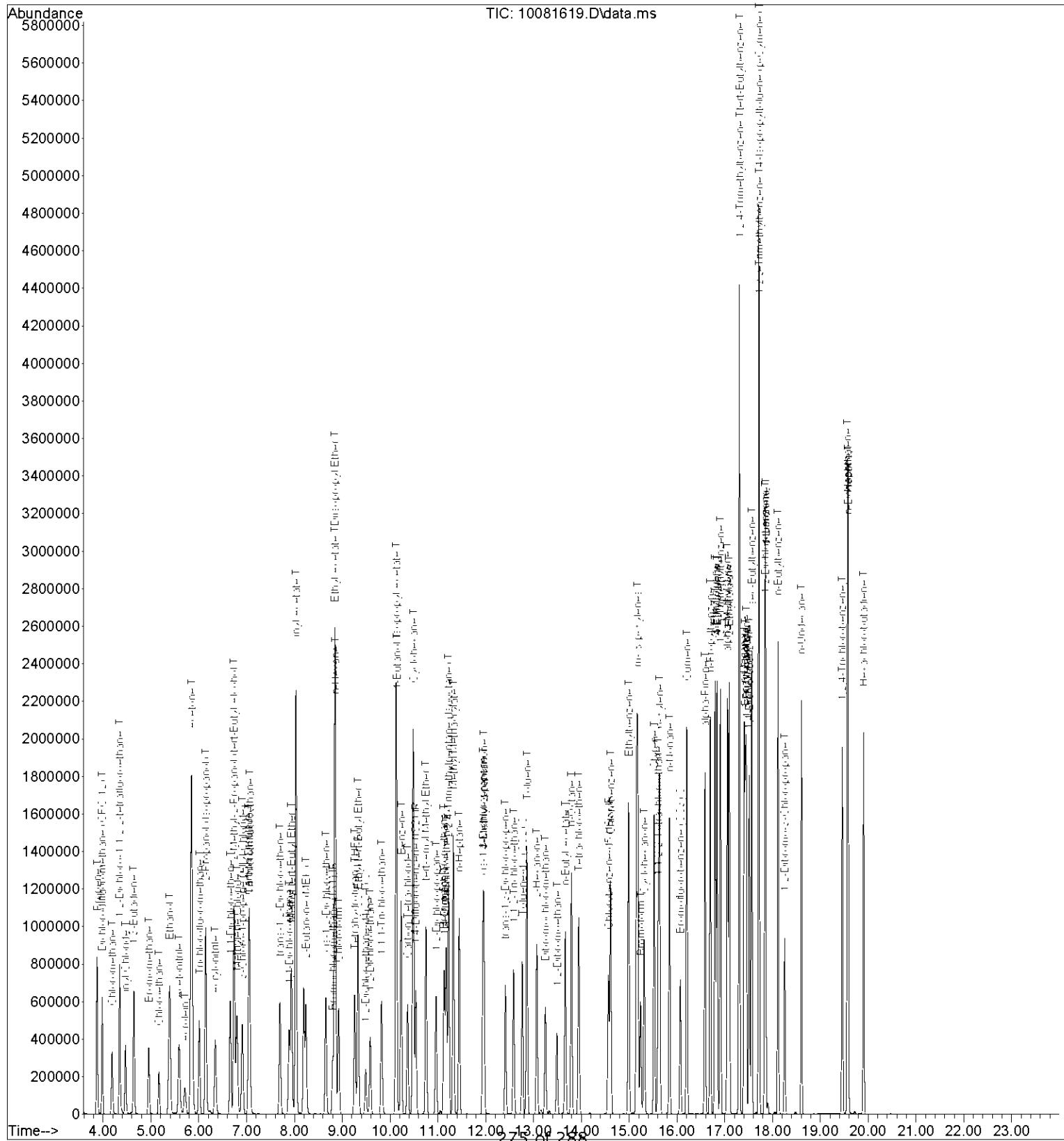
Quant Method : I:\MS08\Methods\R8100816.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS

QLast Update : Wed Oct 12 15:54:53 2016

Response via : Initial Calibration

DataAcq Meth:TO15.M



Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: 10081619.D

Acq. Method File: TO15.M

Data File Path: I:\MS08\Data\2016_10\08\

Sample Name: 25ng TO-15 ICV Standard

Operator: WA

Misc Info: S29-09081602/S29-10061609 (

Date Acquired: 10/8/2016

18:46

Instrument Name: Instrument #MS08

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
2)	Propene	3.87	22.913	26.275	87	52	127	*	*
3)	Dichlorodifluoromethane (CFC 11)	3.98	24.487	26.250	93	68	109	*	*
4)	Chloromethane	4.18	28.245	26.225	108	51	130	*	*
5)	1,2-Dichloro-1,1,2,2-tetrafluoroethane	4.34	24.778	26.375	94	66	114	*	*
6)	Vinyl Chloride	4.46	27.079	26.250	103	61	125	*	*
7)	1,3-Butadiene	4.64	28.463	26.250	108	62	144	*	*
8)	Bromomethane	4.95	27.139	26.250	103	73	123	*	*
9)	Chloroethane	5.16	24.753	26.225	94	69	122	*	*
10)	Ethanol	5.39	121.799	132.650	92	62	124	*	*
11)	Acetonitrile	5.58	24.488	26.650	92	57	114	*	*
12)	Acrolein	5.71	25.995	26.525	98	62	116	*	*
13)	Acetone	5.85	113.875	133.050	86	57	117	*	*
14)	Trichlorofluoromethane	6.01	24.256	26.275	92	63	98	*	*
15)	2-Propanol (Isopropanol)	6.14	54.550	53.025	103	66	121	*	*
16)	Acrylonitrile	6.34	26.882	26.575	101	68	123	*	*
17)	1,1-Dichloroethene	6.65	26.648	26.575	100	76	118	*	*
18)	2-Methyl-2-Propanol (tert-Butyl Alcohol)	6.73	54.783	53.275	103	74	126	*	*
19)	Methylene Chloride	6.80	25.839	26.550	97	60	118	*	*
20)	3-Chloro-1-propene (Allyl Chloride)	6.91	31.912	26.500	120	65	126	*	*
21)	Trichlorotrifluoroethane	7.06	25.154	26.450	95	73	114	*	*
22)	Carbon Disulfide	7.04	24.898	26.675	93	57	102	*	*
23)	trans-1,2-Dichloroethene	7.70	27.731	26.675	104	74	123	*	*
24)	1,1-Dichloroethane	7.89	24.826	26.550	94	69	111	*	*
25)	Methyl tert-Butyl Ether	7.93	25.102	26.600	94	69	113	*	*
26)	Vinyl Acetate	8.03	133.588	132.550	101	76	128	*	*
27)	2-Butanone (MEK)	8.24	28.460	26.550	107	63	127	*	*
28)	cis-1,2-Dichloroethene	8.66	25.562	26.475	97	72	117	*	*
29)	Diisopropyl Ether	8.84	24.683	26.575	93	64	118	*	*
30)	Ethyl Acetate	8.84	52.494	53.275	99	68	127	*	*
31)	n-Hexane	8.86	22.000	26.600	83	55	116	*	*
32)	Chloroform	8.92	24.960	26.475	94	70	109	*	*
34)	Tetrahydrofuran (THF)	9.26	25.187	26.575	95	72	113	*	*
35)	Ethyl tert-Butyl Ether	9.33	25.844	26.525	97	73	117	*	*
36)	1,2-Dichloroethane	9.58	25.200	26.500	95	69	113	*	*
38)	1,1,1-Trichloroethane	9.82	25.746	26.475	97	72	115	*	*
39)	Isopropyl Acetate	10.12	51.645	53.050	97	68	122	*	*
40)	1-Butanol	10.13	65.155	53.075	123	75	141	*	*
41)	Benzene	10.23	23.164	26.525	87	65	107	*	*
42)	Carbon Tetrachloride	10.37	26.449	26.600	99	71	113	*	*
43)	Cyclohexane	10.48	49.504	53.125	93	71	115	*	*
44)	tert-Amyl Methyl Ether	10.75	26.040	26.525	98	73	115	*	*
45)	1,2-Dichloropropane	10.96	25.185	26.525	95	71	115	*	*
46)	Bromodichloromethane	11.12	27.758	26.700	104	75	118	*	*
47)	Trichloroethene	11.17	22.132	26.550	83	68	114	*	*
48)	1,4-Dioxane	11.14	27.938	26.600	105	81	131	*	*
49)	2,2,4-Trimethylpentane (Isooctane)	11.22	24.925	26.525	94	68	112	*	*

Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **10081619.D**

TO15.M

Data File Path: **I:\MS08\Data\2016_10\08**

Sample Name: **25ng TO-15 ICV Standard**

Operator: **WA**

Misc Info: **S29-09081602/S29-10061609 (**

Date Acquired: **10/8/2016**

18:46

Instrument Name: **Instrument #MS08**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
50)	Methyl Methacrylate	11.32	55.457	53.000	105	72	130	*	*
51)	n-Heptane	11.45	24.981	26.600	94	68	116	*	*
52)	cis-1,3-Dichloropropene	11.94	26.951	26.275	103	77	126	*	*
53)	4-Methyl-2-pentanone	11.96	26.490	26.575	100	69	126	*	*
54)	trans-1,3-Dichloropropene	12.41	29.150	26.675	109	79	125	*	*
55)	1,1,2-Trichloroethane	12.58	27.211	26.525	103	75	119	*	*
58)	Toluene	12.86	24.263	26.450	92	59	118	*	*
59)	2-Hexanone	13.07	27.489	26.575	103	69	129	*	*
60)	Dibromochloromethane	13.24	28.629	26.600	108	74	136	*	*
61)	1,2-Dibromoethane	13.49	28.331	26.450	107	73	131	*	*
62)	n-Butyl Acetate	13.66	27.510	26.950	102	69	130	*	*
63)	n-Octane	13.79	24.873	26.500	94	66	120	*	*
64)	Tetrachloroethene	13.94	24.939	26.575	94	65	130	*	*
65)	Chlorobenzene	14.61	24.963	26.500	94	68	120	*	*
66)	Ethylbenzene	14.99	25.526	26.450	97	68	122	*	*
67)	m- & p-Xylenes	15.17	51.465	53.025	97	68	123	*	*
68)	Bromoform	15.24	30.528	26.550	115	69	130	*	*
69)	Styrene	15.53	28.242	26.475	107	71	133	*	*
70)	o-Xylene	15.63	25.479	26.450	96	68	122	*	*
71)	n-Nonane	15.84	25.621	26.475	97	65	120	*	*
72)	1,1,2,2-Tetrachloroethane	15.61	26.962	26.500	102	69	130	*	*
74)	Cumene	16.20	25.574	26.525	96	70	123	*	*
75)	alpha-Pinene	16.58	26.290	26.575	99	70	128	*	*
76)	n-Propylbenzene	16.70	25.901	26.725	97	69	125	*	*
77)	3-Ethyltoluene	16.79	25.860	26.550	97	67	128	*	*
78)	4-Ethyltoluene	16.84	26.288	26.525	99	67	130	*	*
79)	1,3,5-Trimethylbenzene	16.91	25.577	26.525	96	67	124	*	*
80)	alpha-Methylstyrene	17.05	28.940	26.550	109	67	141	*	*
81)	2-Ethyltoluene	17.09	25.955	26.550	98	67	124	*	*
82)	1,2,4-Trimethylbenzene	17.31	26.464	26.525	100	67	129	*	*
83)	n-Decane	17.40	26.048	26.525	98	66	124	*	*
84)	Benzyl Chloride	17.43	29.751	26.550	112	79	138	*	*
85)	1,3-Dichlorobenzene	17.45	26.149	26.475	99	65	136	*	*
86)	1,4-Dichlorobenzene	17.51	25.801	26.650	97	66	141	*	*
87)	sec-Butylbenzene	17.56	26.013	26.550	98	68	125	*	*
88)	4-Isopropyltoluene (p-Cymene)	17.71	26.317	26.550	99	68	131	*	*
89)	1,2,3-Trimethylbenzene	17.71	26.657	26.500	101	68	132	*	*
90)	1,2-Dichlorobenzene	17.84	26.240	26.550	99	67	136	*	*
91)	d-Limonene	17.85	27.271	26.550	103	71	134	*	*
92)	1,2-Dibromo-3-Chloropropane	18.25	28.261	26.475	107	73	136	*	*
93)	n-Undecane	18.60	25.602	26.600	96	68	132	*	*
94)	1,2,4-Trichlorobenzene	19.46	27.612	26.500	104	64	134	*	*
95)	Naphthalene	19.57	27.607	26.700	103	62	136	*	*
96)	n-Dodecane	19.58	26.102	26.550	98	61	137	*	*
97)	Hexachlorobutadiene	19.90	26.000	26.575	98	60	133	*	*
98)	Cyclohexanone	15.32	28.315	26.575	107	64	131	*	*
99)	tert-Butylbenzene	17.31	26.076	26.500	98	67	128	*	*
100)	n-Butylbenzene	18.11	26.873	26.500	101	68	128	*	*

Bold = 75 Compound List

*** = Pass**

Evaluate Continuing Calibration Report

Data File: I:\MS08\Data\2016_11\04\11041603.D
 Acq On : 4 Nov 2016 4:36
 Sample : CCV R8110416 5ng
 Misc : S29-10041602/S29-10261606 (11/24)
 ALS Vial : 16 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 04 06:55:37 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 IR	Bromochloromethane (IS1)	1.000	1.000	0.0	98	-0.03
2 T	Propene	1.188	1.059	10.9	98	0.00
3 T	Dichlorodifluoromethane (CF)	1.882	1.812	3.7	100	0.00
4 T	Chloromethane	1.212	1.133	6.5	92	-0.01
5 T	1,2-Dichloro-1,1,2,2-tetrafluoroethane	1.162	1.122	3.4	102	-0.01
6 T	Vinyl Chloride	1.341	1.383	-3.1	102	-0.02
7 T	1,3-Butadiene	1.036	1.078	-4.1	104	-0.02
8 T	Bromomethane	0.882	0.869	1.5	100	-0.02
9 T	Chloroethane	0.799	0.776	2.9	105	-0.02
10 T	Ethanol	0.790	0.743	5.9	100	-0.08
11 T	Acetonitrile	2.044	1.907	6.7	99	-0.05
12 T	Acrolein	0.658	0.613	6.8	94	-0.04
13 T	Acetone	0.879	0.781	11.1	99	-0.05
14 T	Trichlorofluoromethane	1.705	1.637	4.0	101	-0.02
15 T	2-Propanol (Isopropanol)	2.441	2.561	-4.9	101	-0.06
16 T	Acrylonitrile	1.337	1.320	1.3	96	-0.04
17 T	1,1-Dichloroethene	1.009	0.993	1.6	100	-0.02
18 T	2-Methyl-2-Propanol (tert-BuOH)	2.512	2.740	-9.1	105	-0.05
19 T	Methylene Chloride	1.047	1.008	3.7	100	-0.04
20 T	3-Chloro-1-propene (Allyl Chloride)	1.215	1.332	-9.6	105	-0.03
21 T	Trichlorotrifluoroethane	1.057	1.017	3.8	100	-0.02
22 T	Carbon Disulfide	3.893	3.680	5.5	100	-0.02
23 T	trans-1,2-Dichloroethene	1.282	1.341	-4.6	100	-0.03
24 T	1,1-Dichloroethane	1.740	1.688	3.0	99	-0.03
25 T	Methyl tert-Butyl Ether	3.215	3.185	0.9	101	-0.02
26 T	Vinyl Acetate	0.290	0.279	3.8	94	-0.04
27 T	2-Butanone (MEK)	0.682	0.747	-9.5	100	-0.03
28 T	cis-1,2-Dichloroethene	1.315	1.296	1.4	101	-0.02
29 T	Diisopropyl Ether	0.935	0.921	1.5	103	-0.02
30 T	Ethyl Acetate	0.353	0.363	-2.8	99	-0.03
31 T	n-Hexane	1.733	1.656	4.4	99	-0.01
32 T	Chloroform	1.728	1.666	3.6	100	-0.03
33 S	1,2-Dichloroethane-d4 (SS1)	1.252	1.272	-1.6	99	-0.02
34 T	Tetrahydrofuran (THF)	0.738	0.717	2.8	99	-0.01
35 T	Ethyl tert-Butyl Ether	1.344	1.359	-1.1	102	-0.02
36 T	1,2-Dichloroethane	1.226	1.221	0.4	100	-0.02
37 IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	100	-0.01
38 T	1,1,1-Trichloroethane	0.344	0.329	4.4	101	-0.02
39 T	Isopropyl Acetate	0.138	0.135	2.2	98	-0.02
40 T	1-Butanol	0.211	0.260	-23.2	107	-0.04
41 T	Benzene	0.996	0.860	13.7	99	-0.02
42 T	Carbon Tetrachloride	0.308	0.295	4.2	101	-0.02
43 T	Cyclohexane	0.387	0.359	7.2	100	-0.02
44 T	tert-Amyl Methyl Ether	0.682	0.659	3.4	102	-0.01
45 T	1,2-Dichloropropane	0.219	0.204	6.8	99	-0.01
46 T	Bromodichloromethane	0.282	0.277	1.8	97	-0.02
47 T	Trichloroethene	0.321	0.257	19.9	101	-0.02
48 T	1,4-Dioxane	0.190	0.196	-3.2	102	-0.02
49 T	2,2,4-Trimethylpentane (Isobutane)	0.988	0.919	7.0	99	-0.01
50 T	Methyl Methacrylate	0.104	0.105	-1.0	100	-0.02
51 T	n-Heptane	0.233	0.225	3.4	99	-0.01
52 T	cis-1,3-Dichloropropene	0.355	0.346	2.5	101	-0.01
53 T	4-Methyl-2-pentanone	0.216	0.216	0.0	102	-0.01
54 T	trans-1,3-Dichloropropene	0.307	0.313	-2.0	102	-0.01

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Evaluate Continuing Calibration Report

Data File: I:\MS08\Data\2016_11\04\11041603.D
 Acq On : 4 Nov 2016 4:36
 Sample : CCV R8110416 5ng
 Misc : S29-10041602/S29-10261606 (11/24)
 ALS Vial : 16 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 04 06:55:37 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
55 T	1,1,2-Trichloroethane	0.221	0.215	2.7	99	0.00
56 IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	99	0.00
57 S	Toluene-d8 (SS2)	2.487	2.505	-0.7	101	-0.01
58 T	Toluene	2.441	2.275	6.8	101	-0.01
59 T	2-Hexanone	1.160	1.234	-6.4	101	-0.01
60 T	Dibromochloromethane	0.636	0.641	-0.8	99	-0.01
61 T	1,2-Dibromoethane	0.592	0.594	-0.3	97	-0.01
62 T	n-Butyl Acetate	1.316	1.336	-1.5	99	0.00
63 T	n-Octane	0.476	0.463	2.7	101	0.00
64 T	Tetrachloroethene	0.790	0.722	8.6	99	0.00
65 T	Chlorobenzene	1.692	1.557	8.0	100	-0.01
66 T	Ethylbenzene	2.693	2.597	3.6	101	0.00
67 T	m- & p-Xylenes	2.070	1.976	4.5	100	-0.02
68 T	Bromoform	0.564	0.583	-3.4	99	-0.01
69 T	Styrene	1.676	1.689	-0.8	99	-0.01
70 T	o-Xylene	2.127	2.018	5.1	100	-0.01
71 T	n-Nonane	1.082	1.065	1.6	99	0.00
72 T	1,1,2,2-Tetrachloroethane	0.938	0.936	0.2	99	-0.01
73 S	Bromofluorobenzene (SS3)	1.028	1.000	2.7	97	0.00
74 T	Cumene	2.887	2.764	4.3	100	0.00
75 T	alpha-Pinene	1.469	1.405	4.4	99	0.00
76 T	n-Propylbenzene	3.267	3.169	3.0	100	0.00
77 T	3-Ethyltoluene	2.848	2.690	5.5	95	0.00
78 T	4-Ethyltoluene	2.722	2.657	2.4	105	-0.01
79 T	1,3,5-Trimethylbenzene	2.391	2.286	4.4	100	0.00
80 T	alpha-Methylstyrene	1.271	1.280	-0.7	97	-0.01
81 T	2-Ethyltoluene	2.803	2.672	4.7	99	-0.01
82 T	1,2,4-Trimethylbenzene	2.363	2.286	3.3	100	-0.01
83 T	n-Decane	1.178	1.166	1.0	99	0.00
84 T	Benzyl Chloride	1.880	1.823	3.0	98	-0.01
85 T	1,3-Dichlorobenzene	1.522	1.385	9.0	95	-0.01
86 T	1,4-Dichlorobenzene	1.563	1.394	10.8	94	-0.01
87 T	sec-Butylbenzene	3.179	3.063	3.6	100	-0.01
88 T	4-Isopropyltoluene (p-Cymen)	3.099	3.026	2.4	99	-0.01
89 T	1,2,3-Trimethylbenzene	2.380	2.310	2.9	99	-0.01
90 T	1,2-Dichlorobenzene	1.458	1.357	6.9	97	-0.01
91 T	d-Limonene	0.870	0.891	-2.4	98	-0.01
92 T	1,2-Dibromo-3-Chloropropane	0.535	0.512	4.3	98	0.00
93 T	n-Undecane	1.273	1.207	5.2	95	0.00
94 T	1,2,4-Trichlorobenzene	1.181	1.048	11.3	90	0.00
95 T	Naphthalene	3.383	2.859	15.5	82	0.00
96 T	n-Dodecane	1.284	1.127	12.2	85	0.00
97 T	Hexachlorobutadiene	0.809	0.736	9.0	96	0.00
98 T	Cyclohexanone	0.747	0.768	-2.8	99	-0.02
99 T	tert-Butylbenzene	2.467	2.357	4.5	101	-0.01
100 T	n-Butylbenzene	2.387	2.364	1.0	97	0.00

(#= Out of Range SPCC's out = 0 CCC's out = 0

Data File: I:\MS08\Data\2016_11\04\11041603.D
 Acq On : 4 Nov 2016 4:36
 Sample : CCV R8110416 5ng
 Misc : S29-10041602/S29-10261606 (11/24)
 ALS Vial : 16 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 04 06:55:37 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane (IS1)	8.79	130	122171	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	10.53	114	567265	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	14.56	82	232446	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.48	65	155452	12.704	ng	-0.02
Spiked Amount	12.500	Range	70 - 130	Recovery	=	101.60%
57) Toluene-d8 (SS2)	12.76	98	582237	12.590	ng	-0.01
Spiked Amount	12.500	Range	70 - 130	Recovery	=	100.72%
73) Bromofluorobenzene (SS3)	16.07	174	232504	12.167	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	97.36%

Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	3.87	42	53613	4.617	ng	99
3) Dichlorodifluoromethan...	3.98	85	92689	5.039	ng	100
4) Chloromethane	4.18	50	55627	4.697	ng	99
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	55122	4.852	ng	99
6) Vinyl Chloride	4.46	62	69148	5.278	ng	100
7) 1,3-Butadiene	4.64	54	55700	5.502	ng	97
8) Bromomethane	4.95	94	42174	4.894	ng	98
9) Chloroethane	5.16	64	38257	4.899	ng	100
10) Ethanol	5.36	45	189118	24.496	ng	100
11) Acetonitrile	5.57	41	97496	4.880	ng	98
12) Acrolein	5.70	56	31187	4.847	ng	100
13) Acetone	5.83	58	202769	23.613	ng	97
14) Trichlorofluoromethane	6.00	101	83936	5.037	ng	99
15) 2-Propanol (Isopropanol)	6.12	45	263433	11.044	ng	99
16) Acrylonitrile	6.33	53	68035	5.206	ng	98
17) 1,1-Dichloroethene	6.65	96	51410	5.212	ng	97
18) 2-Methyl-2-Propanol (t...	6.72	59	283022	11.530	ng	99
19) Methylene Chloride	6.78	84	52043	5.085	ng	99
20) 3-Chloro-1-propene (Al...	6.90	41	68480	5.766	ng	99
21) Trichlorotrifluoroethane	7.06	151	52113	5.045	ng	100
22) Carbon Disulfide	7.04	76	190805	5.015	ng	100
23) trans-1,2-Dichloroethene	7.68	61	69935	5.580	ng	100
24) 1,1-Dichloroethane	7.88	63	84118	4.946	ng	100
25) Methyl tert-Butyl Ether	7.93	73	165939	5.280	ng	98
26) Vinyl Acetate	8.02	86	71726	25.314	ng	# 92
27) 2-Butanone (MEK)	8.23	72	38277	5.747	ng	99
28) cis-1,2-Dichloroethene	8.64	61	67411	5.245	ng	98
29) Diisopropyl Ether	8.84	87	47798	5.230	ng	97
30) Ethyl Acetate	8.84	61	37813	10.945	ng	97
31) n-Hexane	8.85	57	86012	5.079	ng	99
32) Chloroform	8.91	83	86116	5.100	ng	99
34) Tetrahydrofuran (THF)	9.26	72	37190	5.156	ng	94
35) Ethyl tert-Butyl Ether	9.32	87	70191	5.344	ng	99
36) 1,2-Dichloroethane	9.58	62	62788	5.241	ng	100
38) 1,1,1-Trichloroethane	9.82	97	80290	5.150	ng	99
39) Isopropyl Acetate	10.12	61	64679	10.350	ng	# 92
40) 1-Butanol	10.12	56	124142	12.946	ng	99
41) Benzene	10.22	78	205207	4.539	ng	99
42) Carbon Tetrachloride	10.36	117	70574	5.049	ng	100
43) Cyclohexane	10.48	84	173687	9.881	ng	98
44) tert-Amyl Methyl Ether	10.75	73	157527	5.091	ng	99
45) 1,2-Dichloropropane	10.96	63	49100	4.945	ng	99
46) Bromodichloromethane	11.12	83	66958	5.235	ng	99
47) Trichloroethene	11.17	130	61840	4.250	ng	97
48) 1,4-Dioxane	11.14	88	47159	5.465	ng	99
49) 2,2,4-Trimethylpentane...	11.22	57	220918	4.927	ng	100

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Data File: I:\MS08\Data\2016_11\04\11041603.D
 Acq On : 4 Nov 2016 4:36
 Sample : CCV R8110416 5ng
 Misc : S29-10041602/S29-10261606 (11/24)
 ALS Vial : 16 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 04 06:55:37 2016
 Quant Method : I:\MS08\Methods\R8100816.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Wed Oct 12 15:54:53 2016
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	11.32	100	50150	10.615	ng	98
51) n-Heptane	11.44	71	54198	5.129	ng	99
52) cis-1,3-Dichloropropene	11.94	75	87692	5.439	ng	100
53) 4-Methyl-2-pentanone	11.96	58	51874	5.282	ng	97
54) trans-1,3-Dichloropropene	12.41	75	75583	5.422	ng	100
55) 1,1,2-Trichloroethane	12.58	97	51644	5.150	ng	99
58) Toluene	12.86	91	222696	4.905	ng	97
59) 2-Hexanone	13.07	43	121750	5.645	ng	99
60) Dibromochloromethane	13.24	129	63307	5.356	ng	99
61) 1,2-Dibromoethane	13.49	107	58296	5.295	ng	99
62) n-Butyl Acetate	13.66	43	132149	5.398	ng	99
63) n-Octane	13.79	57	45486	5.134	ng	99
64) Tetrachloroethene	13.94	166	71225	4.846	ng	100
65) Chlorobenzene	14.61	112	153612	4.882	ng	100
66) Ethylbenzene	14.99	91	254722	5.087	ng	98
67) m- & p-Xylenes	15.16	91	390145	10.135	ng	98
68) Bromoform	15.23	173	57668	5.500	ng	99
69) Styrene	15.52	104	166588	5.346	ng	100
70) o-Xylene	15.63	91	197774	5.001	ng	98
71) n-Nonane	15.84	43	104347	5.188	ng	99
72) 1,1,2,2-Tetrachloroethane	15.61	83	91930	5.272	ng	99
74) Cumene	16.20	105	269798	5.026	ng	98
75) alpha-Pinene	16.59	93	136419	4.995	ng	94
76) n-Propylbenzene	16.69	91	313205	5.156	ng	99
77) 3-Ethyltoluene	16.79	105	262612	4.959	ng	97
78) 4-Ethyltoluene	16.83	105	259125	5.119	ng	95
79) 1,3,5-Trimethylbenzene	16.91	105	222994	5.015	ng	97
80) alpha-Methylstyrene	17.05	118	125005	5.288	ng	99
81) 2-Ethyltoluene	17.09	105	263803	5.061	ng	98
82) 1,2,4-Trimethylbenzene	17.30	105	223610	5.089	ng	97
83) n-Decane	17.40	57	114165	5.211	ng	99
84) Benzyl Chloride	17.42	91	179883	5.145	ng	98
85) 1,3-Dichlorobenzene	17.45	146	136213	4.811	ng	100
86) 1,4-Dichlorobenzene	17.51	146	137145	4.719	ng	100
87) sec-Butylbenzene	17.56	105	300152	5.077	ng	99
88) 4-Isopropyltoluene (p-...)	17.71	119	288965	5.015	ng	99
89) 1,2,3-Trimethylbenzene	17.71	105	220552	4.984	ng	99
90) 1,2-Dichlorobenzene	17.84	146	133495	4.924	ng	98
91) d-Limonene	17.85	68	83276	5.149	ng	100
92) 1,2-Dibromo-3-Chloropr...	18.25	157	50125	5.042	ng	97
93) n-Undecane	18.60	57	118261	4.998	ng	99
94) 1,2,4-Trichlorobenzene	19.46	180	101598	4.624	ng	99
95) Naphthalene	19.57	128	287851	4.576	ng	100
96) n-Dodecane	19.58	57	109482	4.584	ng	98
97) Hexachlorobutadiene	19.90	225	72484	4.818	ng	98
98) Cyclohexanone	15.31	55	75391	5.428	ng	99
99) tert-Butylbenzene	17.30	119	230297	5.020	ng	99
100) n-Butylbenzene	18.11	91	232142	5.229	ng	99

(#= qualifier out of range (m)= manual integration (+)= signals summed)

Data File: I:\MS08\Data\2016_11\04\11041603.D
Acq On : 4 Nov 2016 4:36
Sample : CCV R8110416 5ng
Misc : S29-10041602/S29-10261606 (11/24)
ALS Vial : 16 Sample Multiplier: 1

Operator: WA

Quant Time: Nov 04 06:55:37 2016

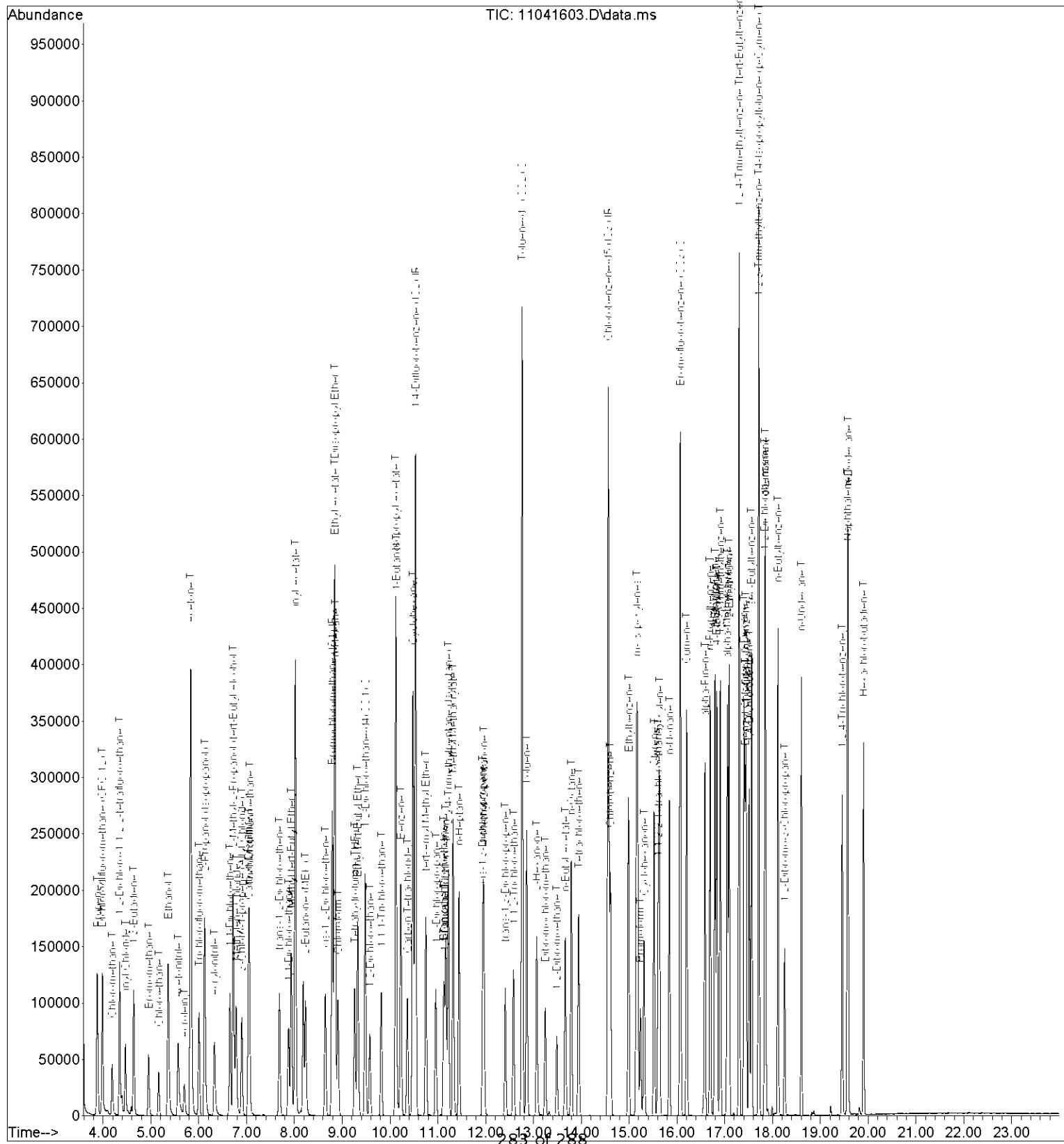
Quant Method : I:\MS08\Methods\R8100816.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS

Last Update : Wed Oct 12 15:54:53 2016

Response via : Initial Calibration

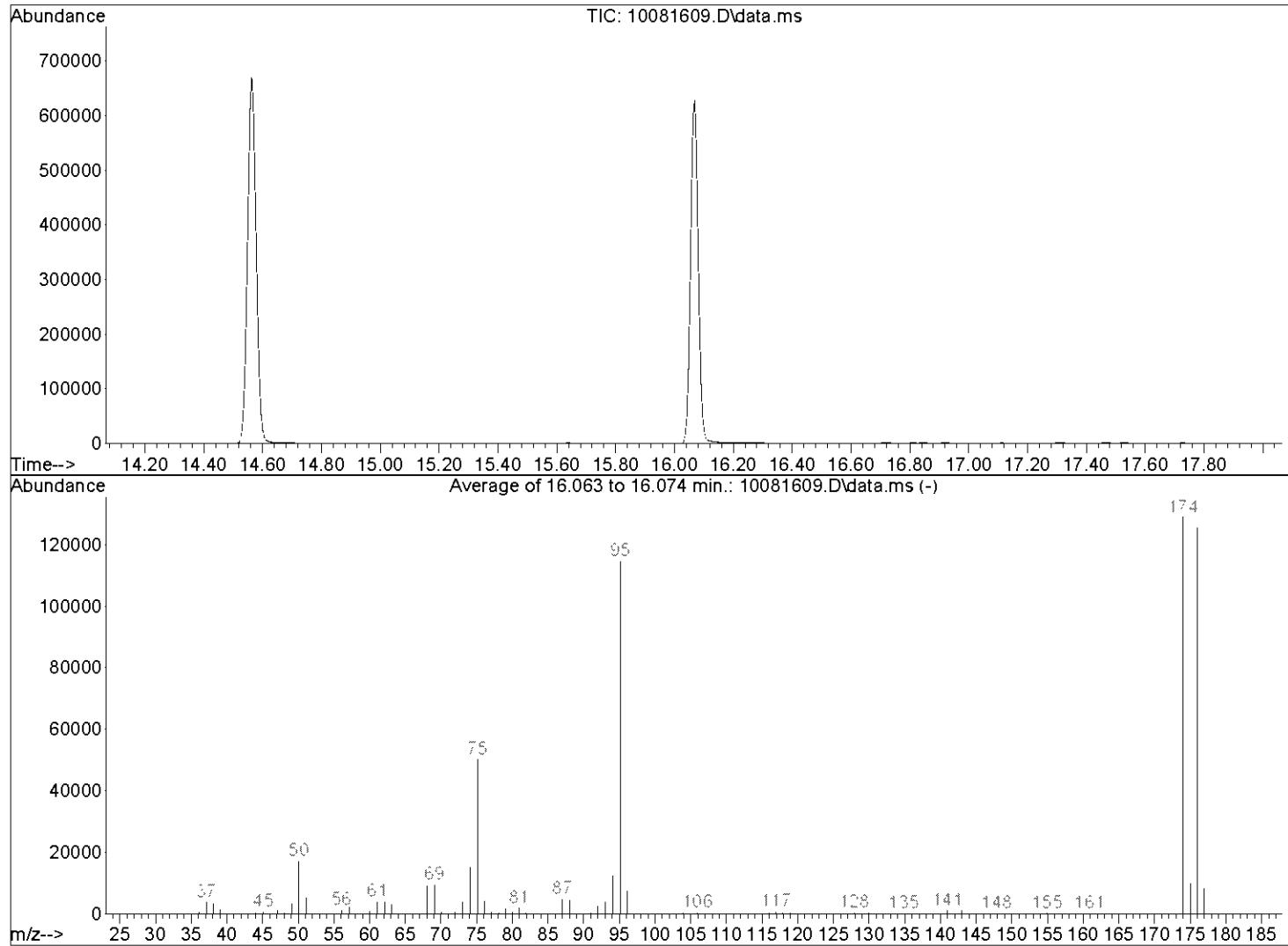
DataAcq Meth:TO15,M



Data Path : I:\MS08\Data\2016 10\08\
 Data File : 10081609.D
 Acq On : 8 Oct 2016 13:22
 Operator : WA
 Sample : BFB R8100816
 Misc : S29-09081602
 ALS Vial : 1 Sample Multiplier: 1

Integration File: RTEINT.P

Method : I:\MS08\Methods\R8100816.M
 Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 Last Update : Mon Oct 10 09:21:35 2016



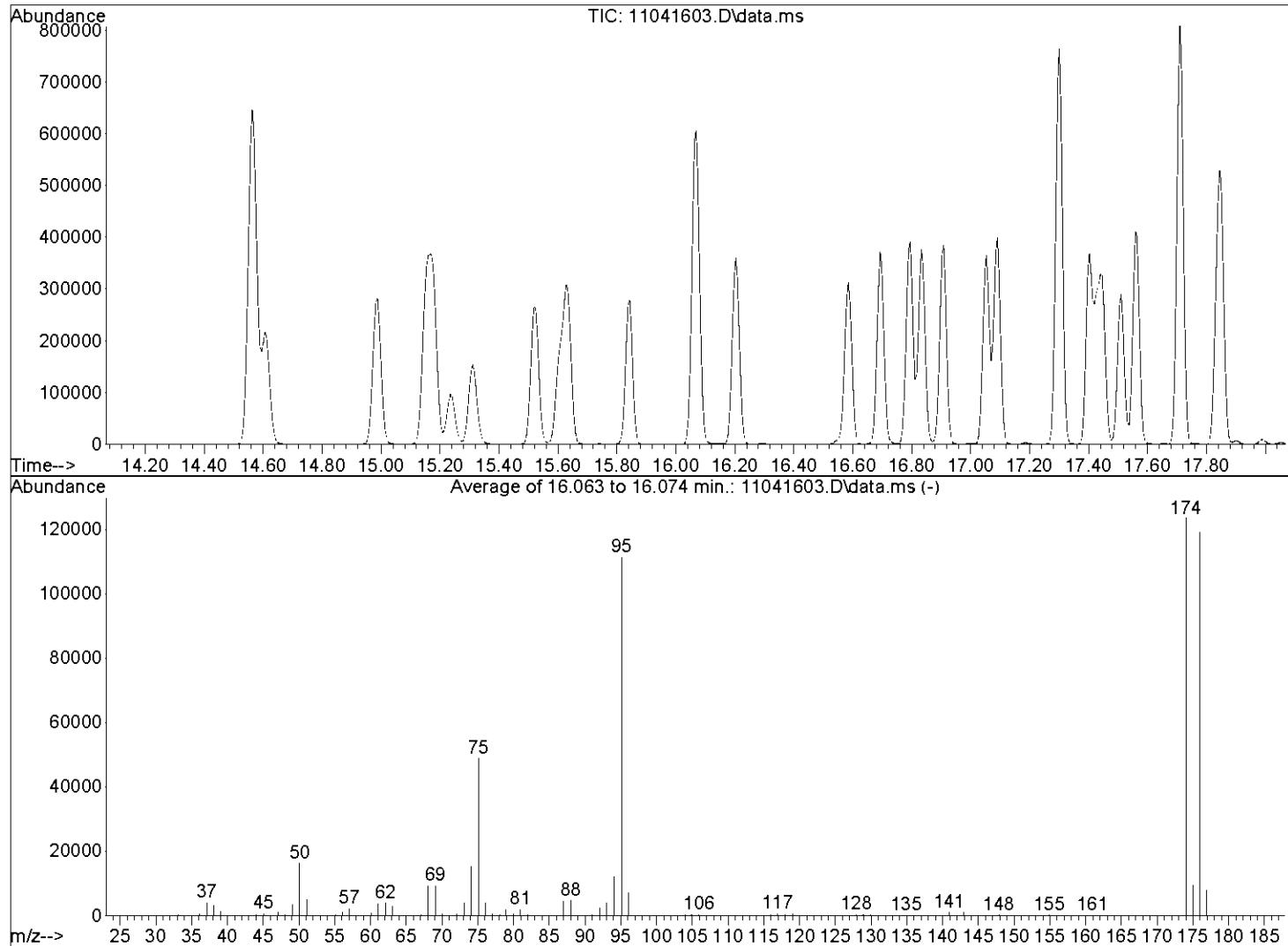
AutoFind: Scans 2316, 2317, 2318; Background Corrected with Scan 2307

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	14.9	17146	PASS
75	95	30	66	43.9	50360	PASS
95	95	100	100	100.0	114709	PASS
96	95	5	9	6.6	7522	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	112.6	129171	PASS
175	174	4	9	7.7	9955	PASS
176	174	93	101	97.3	125723	PASS
177	176	5	9	6.7	8393	PASS

Data Path : I:\MS08\Data\2016_11\04\
 Data File : 11041603.D
 Acq On : 4 Nov 2016 4:36
 Operator : WA
 Sample : CCV R8110416_5ng
 Misc : S29-10041602/S29-10261606 (11/24)
 ALS Vial : 16 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS08\Methods\R8100816.M
 Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 Last Update : Wed Oct 12 15:54:53 2016



AutoFind: Scans 2316, 2317, 2318; Background Corrected with Scan 2307

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	14.7	16357	PASS
75	95	30	66	44.0	48995	PASS
95	95	100	100	100.0	111427	PASS
96	95	5	9	6.5	7285	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	111.0	123720	PASS
175	174	4	9	7.8	9698	PASS
176	174	93	101	96.5	119381	PASS
177	176	5	9	6.7	7979	PASS

Injection Log

Directory: I:\MS08\Data\2016_11\04\

Injection Log

Directory: I:\MS08\Data\2016_11\04\

Injection Log

Directory: J:\MS08\Data\2016_10\08\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
9	10/8/16 13:22	10081609.D	BFB R8100816	S29-09081602	WA	1	Pass
10	10/8/16 13:54	10081610.D	0.08ng TO-15 ICAL Standard	S29-09081602/S29-10061601 (11/4)	WA	13	
11	10/8/16 14:27	10081611.D	0.10ng TO-15 ICAL Standard	S29-09081602/S29-10061601 (11/4)	WA	13	
12	10/8/16 14:59	10081612.D	0.20ng TO-15 ICAL Standard	S29-09081602/S29-10051615 (11/3)	WA	14	
13	10/8/16 15:32	10081613.D	0.40ng TO-15 ICAL Standard	S29-09081602/S29-10051615 (11/3)	WA	14	
14	10/8/16 16:04	10081614.D	1.0ng TO-15 ICAL Standard	S29-09081602/S29-10051609 (11/3)	WA	16	
15	10/8/16 16:36	10081615.D	5.0ng TO-15 ICAL Standard	S29-09081602/S29-10051609 (11/3)	WA	16	
16	10/8/16 17:09	10081616.D	25ng TO-15 ICAL Standard	S29-09081602/S29-10051603 (11/3)	WA	15	
17	10/8/16 17:41	10081617.D	50ng TO-15 ICAL Standard	S29-09081602/S29-10051603 (11/3)	WA	15	
18	10/8/16 18:13	10081618.D	100ng TO-15 ICAL Standard	S29-09081602/S29-10051603 (11/3)	WA	15	
19	10/8/16 18:46	10081619.D	25ng TO-15 ICV Standard	S29-09081602/S29-10061609 (11/4)	WA	1	Pass all cmpds
20	10/8/16 19:18	10081620.D	25ng TO-15 ICV Standard	S29-09081602/S29-10061609 (11/4)	WA	1	Pass all cmpds
Saved as R8100816.M: good for low-level 75 compounds list:							
Exception: chloroethane, Acrylonitrile, cis/trans-1,3-DCPE, 2-Hexanone, Butylacetate, 1,2-DBCP, Undecane, Dodecane: from 0.2ng ---> 100ng							
Acrolein, CS2, Ethylacetate, MIBK, Benzyl chloride: from 0.4ng ---> 100ng (200ng); Vinyl acetate: 2.0ng ---> 500ng							
##							
##							

SHEALY ENVIRONMENTAL SERVICES, INC.

Report of Analysis

Tetra Tech EM Inc.
1955 Evergreen Boulevard
Building 200, Suite 300
Duluth, GA 30096
Attention: Jessica Vickers

Project Name: **Patterson Street Solvent**

Project Number: **103X902702025**

Lot Number: **RJ20010**

Date Completed: **10/25/2016**



Nisreen Saikaly
Project Manager



This report shall not be reproduced, except in its entirety, without the written approval of Shealy Environmental Services, Inc.

The following non-paginated documents are considered part of this report: Chain of Custody Record and Sample Receipt Checklist.

SHEALY ENVIRONMENTAL SERVICES, INC.

SC DHEC No: 32010

NELAC No: E87653

NC DENR No: 329

NC Field Parameters No: 5639

Case Narrative Tetra Tech EM Inc. Lot Number: RJ20010

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

All results listed in this report relate only to the samples that are contained within this report.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

Volatile Organic Compounds

The MS/MSD recoveries in batch 24888 were outside acceptance criteria. All other QC criteria for the batch was within acceptance criteria and method control limits. The MS/MSD recovery results are attributed to matrix interference. The associated sample results were reported and no corrective action was required.

SHEALY ENVIRONMENTAL SERVICES, INC.

Sample Summary
Tetra Tech EM Inc.
Lot Number: RJ20010

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	PSS-SW-05	Aqueous	10/18/2016 1045	10/20/2016
002	PSS-SW-06	Aqueous	10/18/2016 1110	10/20/2016
003	PSS-SW-06-DUP	Aqueous	10/18/2016 1115	10/20/2016
004	PSS-GW-MW30	Aqueous	10/18/2016 1115	10/20/2016
005	PSS-SW-04	Aqueous	10/18/2016 1130	10/20/2016
006	PSS-SW-01	Aqueous	10/18/2016 1330	10/20/2016
007	PSS-SW-03	Aqueous	10/18/2016 1400	10/20/2016
008	PSS-GW-MW295	Aqueous	10/18/2016 1425	10/20/2016
009	PSS-SW-02	Aqueous	10/18/2016 1530	10/20/2016
010	PSS-GW-275	Aqueous	10/18/2016 1610	10/20/2016
011	PSS-GW-MW3351	Aqueous	10/18/2016 1705	10/20/2016
012	PSS-GW-MW3351-DUP	Aqueous	10/18/2016 1710	10/20/2016
013	PSS-FB	Aqueous	10/18/2016 1715	10/20/2016
014	TRIP BLANK	Aqueous	10/18/2016	10/20/2016

(14 samples)

SHEALY ENVIRONMENTAL SERVICES, INC.

Executive Summary

Tetra Tech EM Inc.

Lot Number: RJ20010

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	PSS-SW-05	Aqueous	Acetone	8260B	2.8	J	ug/L	6
001	PSS-SW-05	Aqueous	1.1-Dichloroethane	8260B	1.2		ug/L	6
001	PSS-SW-05	Aqueous	1.1-Dichloroethene	8260B	8.7		ug/L	6
001	PSS-SW-05	Aqueous	cis-1,2-Dichloroethene	8260B	11		ug/L	6
001	PSS-SW-05	Aqueous	1,4-Dioxane	8260B	63		ug/L	6
001	PSS-SW-05	Aqueous	Tetrachloroethene	8260B	86		ug/L	6
001	PSS-SW-05	Aqueous	Trichloroethene	8260B	32		ug/L	7
001	PSS-SW-05	Aqueous	Vinyl chloride	8260B	1.2		ug/L	7
002	PSS-SW-06	Aqueous	Acetone	8260B	2.2	J	ug/L	8
002	PSS-SW-06	Aqueous	Benzene	8260B	0.50		ug/L	8
002	PSS-SW-06	Aqueous	1,2-Dichlorobenzene	8260B	0.78		ug/L	8
002	PSS-SW-06	Aqueous	1,1-Dichloroethane	8260B	1.5		ug/L	8
002	PSS-SW-06	Aqueous	1,1-Dichloroethene	8260B	22		ug/L	8
002	PSS-SW-06	Aqueous	cis-1,2-Dichloroethene	8260B	11		ug/L	8
002	PSS-SW-06	Aqueous	1,4-Dioxane	8260B	47		ug/L	8
002	PSS-SW-06	Aqueous	Tetrachloroethene	8260B	41		ug/L	8
002	PSS-SW-06	Aqueous	1,1,1-Trichloroethane	8260B	4.5		ug/L	9
002	PSS-SW-06	Aqueous	Trichloroethene	8260B	21		ug/L	9
002	PSS-SW-06	Aqueous	Vinyl chloride	8260B	1.3		ug/L	9
003	PSS-SW-06-DUP	Aqueous	Acetone	8260B	2.2	J	ug/L	10
003	PSS-SW-06-DUP	Aqueous	Benzene	8260B	0.49	J	ug/L	10
003	PSS-SW-06-DUP	Aqueous	1,2-Dichlorobenzene	8260B	0.69		ug/L	10
003	PSS-SW-06-DUP	Aqueous	1,1-Dichloroethane	8260B	1.6		ug/L	10
003	PSS-SW-06-DUP	Aqueous	1,1-Dichloroethene	8260B	22		ug/L	10
003	PSS-SW-06-DUP	Aqueous	cis-1,2-Dichloroethene	8260B	11		ug/L	10
003	PSS-SW-06-DUP	Aqueous	1,4-Dioxane	8260B	53		ug/L	10
003	PSS-SW-06-DUP	Aqueous	Tetrachloroethene	8260B	42		ug/L	10
003	PSS-SW-06-DUP	Aqueous	1,1,1-Trichloroethane	8260B	4.4		ug/L	11
003	PSS-SW-06-DUP	Aqueous	Trichloroethene	8260B	21		ug/L	11
003	PSS-SW-06-DUP	Aqueous	Vinyl chloride	8260B	1.2		ug/L	11
004	PSS-GW-MW30	Aqueous	1,1-Dichloroethene	8260B	1.4		ug/L	12
004	PSS-GW-MW30	Aqueous	cis-1,2-Dichloroethene	8260B	0.43	J	ug/L	12
004	PSS-GW-MW30	Aqueous	Methyl tertiary butyl ether	8260B	0.80		ug/L	12
004	PSS-GW-MW30	Aqueous	Tetrachloroethene	8260B	24		ug/L	12
004	PSS-GW-MW30	Aqueous	Trichloroethene	8260B	9.6		ug/L	13
005	PSS-SW-04	Aqueous	Acetone	8260B	2.3	J	ug/L	14
005	PSS-SW-04	Aqueous	1,1-Dichloroethene	8260B	2.2		ug/L	14
005	PSS-SW-04	Aqueous	cis-1,2-Dichloroethene	8260B	2.1		ug/L	14
005	PSS-SW-04	Aqueous	1,4-Dioxane	8260B	69		ug/L	14
005	PSS-SW-04	Aqueous	Tetrachloroethene	8260B	4.5		ug/L	14
005	PSS-SW-04	Aqueous	Trichloroethene	8260B	2.3		ug/L	15
006	PSS-SW-01	Aqueous	Chloroform	8260B	2.8		ug/L	16
006	PSS-SW-01	Aqueous	1,1-Dichloroethane	8260B	2.9		ug/L	16
006	PSS-SW-01	Aqueous	1,1-Dichloroethene	8260B	100		ug/L	16
006	PSS-SW-01	Aqueous	cis-1,2-Dichloroethene	8260B	280		ug/L	16

Executive Summary (Continued)

Lot Number: RJ20010

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
006	PSS-SW-01	Aqueous	Tetrachloroethene	8260B	410		ug/L	16
006	PSS-SW-01	Aqueous	1,1,1-Trichloroethane	8260B	2.7		ug/L	17
006	PSS-SW-01	Aqueous	Trichloroethene	8260B	530		ug/L	17
006	PSS-SW-01	Aqueous	Vinyl chloride	8260B	5.7		ug/L	17
007	PSS-SW-03	Aqueous	Acetone	8260B	4.8	J	ug/L	18
007	PSS-SW-03	Aqueous	Chloroform	8260B	0.46	J	ug/L	18
007	PSS-SW-03	Aqueous	1,1-Dichloroethane	8260B	1.6		ug/L	18
007	PSS-SW-03	Aqueous	1,1-Dichloroethene	8260B	32		ug/L	18
007	PSS-SW-03	Aqueous	cis-1,2-Dichloroethene	8260B	11		ug/L	18
007	PSS-SW-03	Aqueous	1,4-Dioxane	8260B	30		ug/L	18
007	PSS-SW-03	Aqueous	Tetrachloroethene	8260B	53		ug/L	18
007	PSS-SW-03	Aqueous	Toluene	8260B	0.60		ug/L	18
007	PSS-SW-03	Aqueous	1,1,1-Trichloroethane	8260B	8.8		ug/L	19
007	PSS-SW-03	Aqueous	Trichloroethene	8260B	30		ug/L	19
007	PSS-SW-03	Aqueous	Vinyl chloride	8260B	1.0		ug/L	19
008	PSS-GW-MW295	Aqueous	1,1-Dichloroethane	8260B	1.6		ug/L	20
008	PSS-GW-MW295	Aqueous	1,1-Dichloroethene	8260B	4.4		ug/L	20
008	PSS-GW-MW295	Aqueous	cis-1,2-Dichloroethene	8260B	20		ug/L	20
008	PSS-GW-MW295	Aqueous	1,4-Dioxane	8260B	31		ug/L	20
008	PSS-GW-MW295	Aqueous	Tetrachloroethene	8260B	55		ug/L	20
008	PSS-GW-MW295	Aqueous	Trichloroethene	8260B	25		ug/L	21
008	PSS-GW-MW295	Aqueous	Trichlorofluoromethane	8260B	0.66		ug/L	21
009	PSS-SW-02	Aqueous	1,1-Dichloroethane	8260B	0.86		ug/L	22
009	PSS-SW-02	Aqueous	1,1-Dichloroethene	8260B	13		ug/L	22
009	PSS-SW-02	Aqueous	cis-1,2-Dichloroethene	8260B	10		ug/L	22
009	PSS-SW-02	Aqueous	1,4-Dioxane	8260B	33		ug/L	22
009	PSS-SW-02	Aqueous	Tetrachloroethene	8260B	16		ug/L	22
009	PSS-SW-02	Aqueous	1,1,1-Trichloroethane	8260B	3.1		ug/L	23
009	PSS-SW-02	Aqueous	Trichloroethene	8260B	14		ug/L	23
009	PSS-SW-02	Aqueous	Vinyl chloride	8260B	0.60		ug/L	23
010	PSS-GW-275	Aqueous	1,1-Dichloroethane	8260B	69		ug/L	24
010	PSS-GW-275	Aqueous	cis-1,2-Dichloroethene	8260B	66		ug/L	24
010	PSS-GW-275	Aqueous	Tetrachloroethene	8260B	850		ug/L	24
010	PSS-GW-275	Aqueous	Trichloroethene	8260B	360		ug/L	25

(79 detections)

Volatile Organic Compounds by GC/MS

Client: Tetra Tech EM Inc.	Laboratory ID: RJ20010-001
Description: PSS-SW-05	Matrix: Aqueous
Date Sampled: 10/18/2016 1045	
Date Received: 10/20/2016	

Run 1	Prep Method 5030B	Analytical Method 8260B	Dilution 1	Analysis Date 10/21/2016	Analyst 1149 TML	Prep Date	Batch 24888		
Parameter		CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone		67-64-1	8260B	2.8	J	10	2.0	ug/L	1
Benzene		71-43-2	8260B	ND		0.50	0.40	ug/L	1
Bromochloromethane		74-97-5	8260B	ND		0.50	0.40	ug/L	1
Bromodichloromethane		75-27-4	8260B	ND		0.50	0.40	ug/L	1
Bromoform		75-25-2	8260B	ND		0.50	0.40	ug/L	1
Bromomethane (Methyl bromide)		74-83-9	8260B	ND		0.50	0.40	ug/L	1
2-Butanone (MEK)		78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide		75-15-0	8260B	ND		0.50	0.40	ug/L	1
Carbon tetrachloride		56-23-5	8260B	ND		0.50	0.40	ug/L	1
Chlorobenzene		108-90-7	8260B	ND		0.50	0.40	ug/L	1
Chloroethane		75-00-3	8260B	ND		0.50	0.40	ug/L	1
Chloroform		67-66-3	8260B	ND		0.50	0.40	ug/L	1
Chloromethane (Methyl chloride)		74-87-3	8260B	ND		0.50	0.40	ug/L	1
Cyclohexane		110-82-7	8260B	ND		0.50	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)		96-12-8	8260B	ND		0.50	0.40	ug/L	1
Dibromochloromethane		124-48-1	8260B	ND		0.50	0.40	ug/L	1
1,2-Dibromoethane (EDB)		106-93-4	8260B	ND		0.50	0.40	ug/L	1
1,2-Dichlorobenzene		95-50-1	8260B	ND		0.50	0.40	ug/L	1
1,3-Dichlorobenzene		541-73-1	8260B	ND		0.50	0.40	ug/L	1
1,4-Dichlorobenzene		106-46-7	8260B	ND		0.50	0.40	ug/L	1
Dichlorodifluoromethane		75-71-8	8260B	ND		0.50	0.40	ug/L	1
1,1-Dichloroethane		75-34-3	8260B	1.2		0.50	0.40	ug/L	1
1,2-Dichloroethane		107-06-2	8260B	ND		0.50	0.40	ug/L	1
1,1-Dichloroethene		75-35-4	8260B	8.7		0.50	0.40	ug/L	1
cis-1,2-Dichloroethene		156-59-2	8260B	11		0.50	0.40	ug/L	1
trans-1,2-Dichloroethene		156-60-5	8260B	ND		0.50	0.40	ug/L	1
1,2-Dichloropropane		78-87-5	8260B	ND		0.50	0.40	ug/L	1
cis-1,3-Dichloropropene		10061-01-5	8260B	ND		0.50	0.40	ug/L	1
trans-1,3-Dichloropropene		10061-02-6	8260B	ND		0.50	0.40	ug/L	1
1,4-Dioxane		123-91-1	8260B	63		20	13	ug/L	1
Ethylbenzene		100-41-4	8260B	ND		0.50	0.40	ug/L	1
2-Hexanone		591-78-6	8260B	ND		10	2.0	ug/L	1
Isopropylbenzene		98-82-8	8260B	ND		0.50	0.40	ug/L	1
Methyl acetate		79-20-9	8260B	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)		1634-04-4	8260B	ND		0.50	0.40	ug/L	1
4-Methyl-2-pentanone		108-10-1	8260B	ND		10	2.0	ug/L	1
Methylcyclohexane		108-87-2	8260B	ND		5.0	0.40	ug/L	1
Methylene chloride		75-09-2	8260B	ND		0.50	0.40	ug/L	1
Styrene		100-42-5	8260B	ND		0.50	0.40	ug/L	1
1,1,2,2-Tetrachloroethane		79-34-5	8260B	ND		0.50	0.40	ug/L	1
Tetrachloroethene		127-18-4	8260B	86		0.50	0.40	ug/L	1
Toluene		108-88-3	8260B	ND		0.50	0.40	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane		76-13-1	8260B	ND		0.50	0.40	ug/L	1
1,2,3-Trichlorobenzene		87-61-6	8260B	ND		0.50	0.40	ug/L	1

PQL = FQL + 3 times standard deviation

E = Detected in the method blank

E = Quantitation of compound measured the calibration (30%)

H = (Q) / holding time

ND = Not detected, 3 times the MDL

J = Estimated result - FQL and > MDL

F = The FID between two columns measured at 40°C

H = FQL + (Q) / holding time

Note: Sample 300 mL sample = 300 mL (300 mg reported on dry weight basis) and is flagged with a "J"

Volatile Organic Compounds by GC/MS

Client: Tetra Tech EM Inc.	Laboratory ID: RJ20010-001
Description: PSS-SW-05	Matrix: Aqueous
Date Sampled: 10/18/2016 1045	
Date Received: 10/20/2016	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260B	1	10/21/2016 1149	TML		24888		
Parameter		CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2,4-Trichlorobenzene		120-82-1	8260B	ND		0.50	0.40	ug/L	1
1,1,1-Trichloroethane		71-55-6	8260B	ND		0.50	0.40	ug/L	1
1,1,2-Trichloroethane		79-00-5	8260B	ND		0.50	0.40	ug/L	1
Trichloroethene		79-01-6	8260B	32		0.50	0.40	ug/L	1
Trichlorofluoromethane		75-69-4	8260B	ND		0.50	0.40	ug/L	1
Vinyl chloride		75-01-4	8260B	1.2		0.50	0.40	ug/L	1
m+p - Xylenes		179601-23-1	8260B	ND		0.50	0.40	ug/L	1
o - Xylenes		95-47-6	8260B	ND		0.50	0.40	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits						
1,2-Dichloroethane-d4		105	70-130						
Bromofluorobenzene		97	70-130						
Toluene-d8		103	70-130						

PQL = Precision quantitation limit E = Detected in the method blank E = Quantitation of compound measured the calibration (30%) H = Unit of holding time
 MDL = Limit of detection, 3 times the MDL J = E: (measured result - PQL) / MDL F = The FFD between two adjacent columns (less than 40%) U = Error of x (1 unit of error)
 Note: Sample 300 mL soil sample 300 mL water reported on dry weight basis and flagged with a "N"

Volatile Organic Compounds by GC/MS

Client: Tetra Tech EM Inc.	Laboratory ID: RJ20010-002
Description: PSS-SW-06	Matrix: Aqueous
Date Sampled: 10/18/2016 1110	
Date Received: 10/20/2016	

Run 1	Prep Method 5030B	Analytical Method 8260B	Dilution 1	Analysis Date 10/21/2016	Analyst TML	Prep Date	Batch 24888		
Parameter		CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone		67-64-1	8260B	2.2	J	10	2.0	ug/L	1
Benzene		71-43-2	8260B	0.50		0.50	0.40	ug/L	1
Bromochloromethane		74-97-5	8260B	ND		0.50	0.40	ug/L	1
Bromodichloromethane		75-27-4	8260B	ND		0.50	0.40	ug/L	1
Bromoform		75-25-2	8260B	ND		0.50	0.40	ug/L	1
Bromomethane (Methyl bromide)		74-83-9	8260B	ND		0.50	0.40	ug/L	1
2-Butanone (MEK)		78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide		75-15-0	8260B	ND		0.50	0.40	ug/L	1
Carbon tetrachloride		56-23-5	8260B	ND		0.50	0.40	ug/L	1
Chlorobenzene		108-90-7	8260B	ND		0.50	0.40	ug/L	1
Chloroethane		75-00-3	8260B	ND		0.50	0.40	ug/L	1
Chloroform		67-66-3	8260B	ND		0.50	0.40	ug/L	1
Chloromethane (Methyl chloride)		74-87-3	8260B	ND		0.50	0.40	ug/L	1
Cyclohexane		110-82-7	8260B	ND		0.50	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)		96-12-8	8260B	ND		0.50	0.40	ug/L	1
Dibromochloromethane		124-48-1	8260B	ND		0.50	0.40	ug/L	1
1,2-Dibromoethane (EDB)		106-93-4	8260B	ND		0.50	0.40	ug/L	1
1,2-Dichlorobenzene		95-50-1	8260B	0.78		0.50	0.40	ug/L	1
1,3-Dichlorobenzene		541-73-1	8260B	ND		0.50	0.40	ug/L	1
1,4-Dichlorobenzene		106-46-7	8260B	ND		0.50	0.40	ug/L	1
Dichlorodifluoromethane		75-71-8	8260B	ND		0.50	0.40	ug/L	1
1,1-Dichloroethane		75-34-3	8260B	1.5		0.50	0.40	ug/L	1
1,2-Dichloroethane		107-06-2	8260B	ND		0.50	0.40	ug/L	1
1,1-Dichloroethene		75-35-4	8260B	22		0.50	0.40	ug/L	1
cis-1,2-Dichloroethene		156-59-2	8260B	11		0.50	0.40	ug/L	1
trans-1,2-Dichloroethene		156-60-5	8260B	ND		0.50	0.40	ug/L	1
1,2-Dichloropropane		78-87-5	8260B	ND		0.50	0.40	ug/L	1
cis-1,3-Dichloropropene		10061-01-5	8260B	ND		0.50	0.40	ug/L	1
trans-1,3-Dichloropropene		10061-02-6	8260B	ND		0.50	0.40	ug/L	1
1,4-Dioxane		123-91-1	8260B	47		20	13	ug/L	1
Ethylbenzene		100-41-4	8260B	ND		0.50	0.40	ug/L	1
2-Hexanone		591-78-6	8260B	ND		10	2.0	ug/L	1
Isopropylbenzene		98-82-8	8260B	ND		0.50	0.40	ug/L	1
Methyl acetate		79-20-9	8260B	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)		1634-04-4	8260B	ND		0.50	0.40	ug/L	1
4-Methyl-2-pentanone		108-10-1	8260B	ND		10	2.0	ug/L	1
Methylcyclohexane		108-87-2	8260B	ND		5.0	0.40	ug/L	1
Methylene chloride		75-09-2	8260B	ND		0.50	0.40	ug/L	1
Styrene		100-42-5	8260B	ND		0.50	0.40	ug/L	1
1,1,2,2-Tetrachloroethane		79-34-5	8260B	ND		0.50	0.40	ug/L	1
Tetrachloroethene		127-18-4	8260B	41		0.50	0.40	ug/L	1
Toluene		108-88-3	8260B	ND		0.50	0.40	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane		76-13-1	8260B	ND		0.50	0.40	ug/L	1
1,2,3-Trichlorobenzene		87-61-6	8260B	ND		0.50	0.40	ug/L	1

PQL = FQL = False positive limit of detection

E = Detected in the method blank

E = Quantified compound measured the calibration range

H = Unit of holding time

ND = Not detected; 3 times the MDL

J = Estimated result; FQL and > MDL

F = The FID between two columns exceed 40%

II = Error code out of control

Other: 300 = 300 fold sample; 300 = reported on 300 weight basis and is flagged with a "Z"

Volatile Organic Compounds by GC/MS

Client: Tetra Tech EM Inc.	Laboratory ID: RJ20010-002
Description: PSS-SW-06	Matrix: Aqueous
Date Sampled: 10/18/2016 1110	
Date Received: 10/20/2016	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260B	1	10/21/2016 1211	TML		24888		
Parameter		CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2,4-Trichlorobenzene		120-82-1	8260B	ND		0.50	0.40	ug/L	1
1,1,1-Trichloroethane		71-55-6	8260B	4.5		0.50	0.40	ug/L	1
1,1,2-Trichloroethane		79-00-5	8260B	ND		0.50	0.40	ug/L	1
Trichloroethene		79-01-6	8260B	21		0.50	0.40	ug/L	1
Trichlorofluoromethane		75-69-4	8260B	ND		0.50	0.40	ug/L	1
Vinyl chloride		75-01-4	8260B	1.3		0.50	0.40	ug/L	1
m+p - Xylenes		179601-23-1	8260B	ND		0.50	0.40	ug/L	1
o - Xylenes		95-47-6	8260B	ND		0.50	0.40	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits						
1,2-Dichloroethane-d4		100	70-130						
Bromofluorobenzene		97	70-130						
Toluene-d8		105	70-130						

PQL = Precision quantitation limit E = Detected in the method blank E = Quantitation of compound measured the calibration (30%) H = Unit of holding time
 MDL = Limit of detection, 3 times the PQL J = E: (measured result - PQL) / MDL F = The FFD between two adjacent columns (less than 40%) U = Error of x (1 unit of error)
 Note: Sample 300 mL soil sample (30 mL eluent) on 50 cm x 6 mm column packed with 3% "A"

Volatile Organic Compounds by GC/MS

Client: Tetra Tech EM Inc.	Laboratory ID: RJ20010-003
Description: PSS-SW-06-DUP	Matrix: Aqueous
Date Sampled: 10/18/2016 1115	
Date Received: 10/20/2016	

Run 1	Prep Method 5030B	Analytical Method 8260B	Dilution 1	Analysis Date 10/21/2016	Analyst 1234 TML	Prep Date	Batch 24888		
Parameter		CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone		67-64-1	8260B	2.2	J	10	2.0	ug/L	1
Benzene		71-43-2	8260B	0.49	J	0.50	0.40	ug/L	1
Bromochloromethane		74-97-5	8260B	ND		0.50	0.40	ug/L	1
Bromodichloromethane		75-27-4	8260B	ND		0.50	0.40	ug/L	1
Bromoform		75-25-2	8260B	ND		0.50	0.40	ug/L	1
Bromomethane (Methyl bromide)		74-83-9	8260B	ND		0.50	0.40	ug/L	1
2-Butanone (MEK)		78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide		75-15-0	8260B	ND		0.50	0.40	ug/L	1
Carbon tetrachloride		56-23-5	8260B	ND		0.50	0.40	ug/L	1
Chlorobenzene		108-90-7	8260B	ND		0.50	0.40	ug/L	1
Chloroethane		75-00-3	8260B	ND		0.50	0.40	ug/L	1
Chloroform		67-66-3	8260B	ND		0.50	0.40	ug/L	1
Chloromethane (Methyl chloride)		74-87-3	8260B	ND		0.50	0.40	ug/L	1
Cyclohexane		110-82-7	8260B	ND		0.50	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)		96-12-8	8260B	ND		0.50	0.40	ug/L	1
Dibromochloromethane		124-48-1	8260B	ND		0.50	0.40	ug/L	1
1,2-Dibromoethane (EDB)		106-93-4	8260B	ND		0.50	0.40	ug/L	1
1,2-Dichlorobenzene		95-50-1	8260B	0.69		0.50	0.40	ug/L	1
1,3-Dichlorobenzene		541-73-1	8260B	ND		0.50	0.40	ug/L	1
1,4-Dichlorobenzene		106-46-7	8260B	ND		0.50	0.40	ug/L	1
Dichlorodifluoromethane		75-71-8	8260B	ND		0.50	0.40	ug/L	1
1,1-Dichloroethane		75-34-3	8260B	1.6		0.50	0.40	ug/L	1
1,2-Dichloroethane		107-06-2	8260B	ND		0.50	0.40	ug/L	1
1,1-Dichloroethene		75-35-4	8260B	22		0.50	0.40	ug/L	1
cis-1,2-Dichloroethene		156-59-2	8260B	11		0.50	0.40	ug/L	1
trans-1,2-Dichloroethene		156-60-5	8260B	ND		0.50	0.40	ug/L	1
1,2-Dichloropropane		78-87-5	8260B	ND		0.50	0.40	ug/L	1
cis-1,3-Dichloropropene		10061-01-5	8260B	ND		0.50	0.40	ug/L	1
trans-1,3-Dichloropropene		10061-02-6	8260B	ND		0.50	0.40	ug/L	1
1,4-Dioxane		123-91-1	8260B	53		20	13	ug/L	1
Ethylbenzene		100-41-4	8260B	ND		0.50	0.40	ug/L	1
2-Hexanone		591-78-6	8260B	ND		10	2.0	ug/L	1
Isopropylbenzene		98-82-8	8260B	ND		0.50	0.40	ug/L	1
Methyl acetate		79-20-9	8260B	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)		1634-04-4	8260B	ND		0.50	0.40	ug/L	1
4-Methyl-2-pentanone		108-10-1	8260B	ND		10	2.0	ug/L	1
Methylcyclohexane		108-87-2	8260B	ND		5.0	0.40	ug/L	1
Methylene chloride		75-09-2	8260B	ND		0.50	0.40	ug/L	1
Styrene		100-42-5	8260B	ND		0.50	0.40	ug/L	1
1,1,2,2-Tetrachloroethane		79-34-5	8260B	ND		0.50	0.40	ug/L	1
Tetrachloroethene		127-18-4	8260B	42		0.50	0.40	ug/L	1
Toluene		108-88-3	8260B	ND		0.50	0.40	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane		76-13-1	8260B	ND		0.50	0.40	ug/L	1
1,2,3-Trichlorobenzene		87-61-6	8260B	ND		0.50	0.40	ug/L	1

FQL = False Quantitation limit E = Detected in the method blank E = Quantitation of compound measured the calibration range H = Unit of holding time
 ND = Not detected below the MDL J = Estimated result FQL and MDL F = The FID between two columns measured at 40°C II = Error code output of QBO
 All sample data is sample mean reported on a dry weight basis and is flagged with a "J"

Volatile Organic Compounds by GC/MS

Client: Tetra Tech EM Inc.	Laboratory ID: RJ20010-003
Description: PSS-SW-06-DUP	Matrix: Aqueous
Date Sampled: 10/18/2016 1115	
Date Received: 10/20/2016	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260B	1	10/21/2016	1234	TML	24888		
Parameter		CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2,4-Trichlorobenzene		120-82-1	8260B	ND		0.50	0.40	ug/L	1
1,1,1-Trichloroethane		71-55-6	8260B	4.4		0.50	0.40	ug/L	1
1,1,2-Trichloroethane		79-00-5	8260B	ND		0.50	0.40	ug/L	1
Trichloroethene		79-01-6	8260B	21		0.50	0.40	ug/L	1
Trichlorofluoromethane		75-69-4	8260B	ND		0.50	0.40	ug/L	1
Vinyl chloride		75-01-4	8260B	1.2		0.50	0.40	ug/L	1
m+p - Xylenes		179601-23-1	8260B	ND		0.50	0.40	ug/L	1
o - Xylenes		95-47-6	8260B	ND		0.50	0.40	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits						
1,2-Dichloroethane-d4		98	70-130						
Bromofluorobenzene		92	70-130						
Toluene-d8		102	70-130						

PQL = Precision quantitation limit E = Detected in the method blank E = Quantitation of compound measured the calibration (30%) H = Unit of holding time
 MDL = Limit of detection, 3 times the MDL J = E: (measured result - PQL) / MDL F = The FFD between two adjacent columns (approx. 400nm) U = Factor used to calculate the
 detection limit (30% of sample blank sample + 30% of detection limit) and is displayed with 3 "0's"

Volatile Organic Compounds by GC/MS

Client: Tetra Tech EM Inc.	Laboratory ID: RJ20010-004
Description: PSS-GW-MW30	Matrix: Aqueous
Date Sampled: 10/18/2016 1115	
Date Received: 10/20/2016	

Run 1	Prep Method 5030B	Analytical Method 8260B	Dilution 1	Analysis Date 10/21/2016	Analyst 1257 TML	Prep Date	Batch 24888		
Parameter		CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone		67-64-1	8260B	ND		10	2.0	ug/L	1
Benzene		71-43-2	8260B	ND		0.50	0.40	ug/L	1
Bromochloromethane		74-97-5	8260B	ND		0.50	0.40	ug/L	1
Bromodichloromethane		75-27-4	8260B	ND		0.50	0.40	ug/L	1
Bromoform		75-25-2	8260B	ND		0.50	0.40	ug/L	1
Bromomethane (Methyl bromide)		74-83-9	8260B	ND		0.50	0.40	ug/L	1
2-Butanone (MEK)		78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide		75-15-0	8260B	ND		0.50	0.40	ug/L	1
Carbon tetrachloride		56-23-5	8260B	ND		0.50	0.40	ug/L	1
Chlorobenzene		108-90-7	8260B	ND		0.50	0.40	ug/L	1
Chloroethane		75-00-3	8260B	ND		0.50	0.40	ug/L	1
Chloroform		67-66-3	8260B	ND		0.50	0.40	ug/L	1
Chloromethane (Methyl chloride)		74-87-3	8260B	ND		0.50	0.40	ug/L	1
Cyclohexane		110-82-7	8260B	ND		0.50	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)		96-12-8	8260B	ND		0.50	0.40	ug/L	1
Dibromochloromethane		124-48-1	8260B	ND		0.50	0.40	ug/L	1
1,2-Dibromoethane (EDB)		106-93-4	8260B	ND		0.50	0.40	ug/L	1
1,2-Dichlorobenzene		95-50-1	8260B	ND		0.50	0.40	ug/L	1
1,3-Dichlorobenzene		541-73-1	8260B	ND		0.50	0.40	ug/L	1
1,4-Dichlorobenzene		106-46-7	8260B	ND		0.50	0.40	ug/L	1
Dichlorodifluoromethane		75-71-8	8260B	ND		0.50	0.40	ug/L	1
1,1-Dichloroethane		75-34-3	8260B	ND		0.50	0.40	ug/L	1
1,2-Dichloroethane		107-06-2	8260B	ND		0.50	0.40	ug/L	1
1,1-Dichloroethene		75-35-4	8260B	1.4		0.50	0.40	ug/L	1
cis-1,2-Dichloroethene		156-59-2	8260B	0.43	J	0.50	0.40	ug/L	1
trans-1,2-Dichloroethene		156-60-5	8260B	ND		0.50	0.40	ug/L	1
1,2-Dichloropropane		78-87-5	8260B	ND		0.50	0.40	ug/L	1
cis-1,3-Dichloropropene		10061-01-5	8260B	ND		0.50	0.40	ug/L	1
trans-1,3-Dichloropropene		10061-02-6	8260B	ND		0.50	0.40	ug/L	1
1,4-Dioxane		123-91-1	8260B	ND		20	13	ug/L	1
Ethylbenzene		100-41-4	8260B	ND		0.50	0.40	ug/L	1
2-Hexanone		591-78-6	8260B	ND		10	2.0	ug/L	1
Isopropylbenzene		98-82-8	8260B	ND		0.50	0.40	ug/L	1
Methyl acetate		79-20-9	8260B	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)		1634-04-4	8260B	0.80		0.50	0.40	ug/L	1
4-Methyl-2-pentanone		108-10-1	8260B	ND		10	2.0	ug/L	1
Methylcyclohexane		108-87-2	8260B	ND		5.0	0.40	ug/L	1
Methylene chloride		75-09-2	8260B	ND		0.50	0.40	ug/L	1
Styrene		100-42-5	8260B	ND		0.50	0.40	ug/L	1
1,1,2,2-Tetrachloroethane		79-34-5	8260B	ND		0.50	0.40	ug/L	1
Tetrachloroethene		127-18-4	8260B	24		0.50	0.40	ug/L	1
Toluene		108-88-3	8260B	ND		0.50	0.40	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane		76-13-1	8260B	ND		0.50	0.40	ug/L	1
1,2,3-Trichlorobenzene		87-61-6	8260B	ND		0.50	0.40	ug/L	1

PQL = FQL + 3 times standard deviation

E = Detected in the method blank

E = Quantitation component associated with detection (30%)

H = % of holding time

ND = Not detected at or below the MDL

J = Estimated result - FQL and - MDL

F = The FID between two columns (approx 40%)

H = Error (CV) of holding time

Other applicable limit = sample mean ± 30% (not reported on 30% weight basis and is flagged with a "J")

Volatile Organic Compounds by GC/MS

Client: Tetra Tech EM Inc.

Laboratory ID: RJ20010-004

Description: PSS-GW-MW30

Matrix: Aqueous

Date Sampled:10/18/2016 1115

Date Received: 10/20/2016

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260B	1	10/21/2016	1257 TML		24888		
Parameter		CAS Number		Analytical Method	Result Q	PQL	MDL	Units	Run
1,2,4-Trichlorobenzene		120-82-1		8260B	ND	0.50	0.40	ug/L	1
1,1,1-Trichloroethane		71-55-6		8260B	ND	0.50	0.40	ug/L	1
1,1,2-Trichloroethane		79-00-5		8260B	ND	0.50	0.40	ug/L	1
Trichloroethene		79-01-6		8260B	9.6	0.50	0.40	ug/L	1
Trichlorofluoromethane		75-69-4		8260B	ND	0.50	0.40	ug/L	1
Vinyl chloride		75-01-4		8260B	ND	0.50	0.40	ug/L	1
m+p - Xylenes		179601-23-1		8260B	ND	0.50	0.40	ug/L	1
o - Xylenes		95-47-6		8260B	ND	0.50	0.40	ug/L	1
Surrogate		Run 1 Q	% Recovery	Acceptance Limits					
1,2-Dichloroethane-d4		100		70-130					
Bromofluorobenzene		96		70-130					
Toluene-d8		104		70-130					

FIGL = Fibrinolytic-platelet inhibitor

E = Context in the method body

$E = \text{Equilibrium energy of the system}$

$H = \text{log of holding time}$

ME = Not detected at or above the MEL

J = E : t(m)

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F = The FFCF between two (s) columns: 40%

$$H = \mathbb{E}_{\theta \sim \Theta} \left[\mathbb{E}_{x \sim p_{\theta}} \left[\log p_{\theta}(x) \right] \right]$$

Whether 3ppm of the 3D-rod complex can kill AIEC was not reported on. In our experiment under the condition with 3 ppm

Volatile Organic Compounds by GC/MS

Client: Tetra Tech EM Inc.	Laboratory ID: RJ20010-005
Description: PSS-SW-04	Matrix: Aqueous
Date Sampled: 10/18/2016 1130	
Date Received: 10/20/2016	

Run 1	Prep Method 5030B	Analytical Method 8260B	Dilution 1	Analysis Date 10/21/2016	Analyst TML	Prep Date 1320	Batch 24888		
Parameter		CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone		67-64-1	8260B	2.3	J	10	2.0	ug/L	1
Benzene		71-43-2	8260B	ND		0.50	0.40	ug/L	1
Bromochloromethane		74-97-5	8260B	ND		0.50	0.40	ug/L	1
Bromodichloromethane		75-27-4	8260B	ND		0.50	0.40	ug/L	1
Bromoform		75-25-2	8260B	ND		0.50	0.40	ug/L	1
Bromomethane (Methyl bromide)		74-83-9	8260B	ND		0.50	0.40	ug/L	1
2-Butanone (MEK)		78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide		75-15-0	8260B	ND		0.50	0.40	ug/L	1
Carbon tetrachloride		56-23-5	8260B	ND		0.50	0.40	ug/L	1
Chlorobenzene		108-90-7	8260B	ND		0.50	0.40	ug/L	1
Chloroethane		75-00-3	8260B	ND		0.50	0.40	ug/L	1
Chloroform		67-66-3	8260B	ND		0.50	0.40	ug/L	1
Chloromethane (Methyl chloride)		74-87-3	8260B	ND		0.50	0.40	ug/L	1
Cyclohexane		110-82-7	8260B	ND		0.50	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)		96-12-8	8260B	ND		0.50	0.40	ug/L	1
Dibromochloromethane		124-48-1	8260B	ND		0.50	0.40	ug/L	1
1,2-Dibromoethane (EDB)		106-93-4	8260B	ND		0.50	0.40	ug/L	1
1,2-Dichlorobenzene		95-50-1	8260B	ND		0.50	0.40	ug/L	1
1,3-Dichlorobenzene		541-73-1	8260B	ND		0.50	0.40	ug/L	1
1,4-Dichlorobenzene		106-46-7	8260B	ND		0.50	0.40	ug/L	1
Dichlorodifluoromethane		75-71-8	8260B	ND		0.50	0.40	ug/L	1
1,1-Dichloroethane		75-34-3	8260B	ND		0.50	0.40	ug/L	1
1,2-Dichloroethane		107-06-2	8260B	ND		0.50	0.40	ug/L	1
1,1-Dichloroethene		75-35-4	8260B	2.2		0.50	0.40	ug/L	1
cis-1,2-Dichloroethene		156-59-2	8260B	2.1		0.50	0.40	ug/L	1
trans-1,2-Dichloroethene		156-60-5	8260B	ND		0.50	0.40	ug/L	1
1,2-Dichloropropane		78-87-5	8260B	ND		0.50	0.40	ug/L	1
cis-1,3-Dichloropropene		10061-01-5	8260B	ND		0.50	0.40	ug/L	1
trans-1,3-Dichloropropene		10061-02-6	8260B	ND		0.50	0.40	ug/L	1
1,4-Dioxane		123-91-1	8260B	69		20	13	ug/L	1
Ethylbenzene		100-41-4	8260B	ND		0.50	0.40	ug/L	1
2-Hexanone		591-78-6	8260B	ND		10	2.0	ug/L	1
Isopropylbenzene		98-82-8	8260B	ND		0.50	0.40	ug/L	1
Methyl acetate		79-20-9	8260B	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)		1634-04-4	8260B	ND		0.50	0.40	ug/L	1
4-Methyl-2-pentanone		108-10-1	8260B	ND		10	2.0	ug/L	1
Methylcyclohexane		108-87-2	8260B	ND		5.0	0.40	ug/L	1
Methylene chloride		75-09-2	8260B	ND		0.50	0.40	ug/L	1
Styrene		100-42-5	8260B	ND		0.50	0.40	ug/L	1
1,1,2,2-Tetrachloroethane		79-34-5	8260B	ND		0.50	0.40	ug/L	1
Tetrachloroethene		127-18-4	8260B	4.5		0.50	0.40	ug/L	1
Toluene		108-88-3	8260B	ND		0.50	0.40	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane		76-13-1	8260B	ND		0.50	0.40	ug/L	1
1,2,3-Trichlorobenzene		87-61-6	8260B	ND		0.50	0.40	ug/L	1

PQL = Preset Quantitation Limit

E = Detected in the method blank

E = Quantitated compound measured the calibration range

H = Unit of holding time

ND = Not detected; 3 times the MDL

J = Estimated result - PQL and > MDL

F = The FID between two columns measured at 40 ppm

H = Factor to convert to ug/L

A blank sample will be taken at least once every three days and flagged with a "Z"

Volatile Organic Compounds by GC/MS

Client: Tetra Tech EM Inc.	Laboratory ID: RJ20010-005
Description: PSS-SW-04	Matrix: Aqueous
Date Sampled: 10/18/2016 1130	
Date Received: 10/20/2016	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260B	1	10/21/2016 1320	TML		24888		
Parameter		CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2,4-Trichlorobenzene		120-82-1	8260B	ND		0.50	0.40	ug/L	1
1,1,1-Trichloroethane		71-55-6	8260B	ND		0.50	0.40	ug/L	1
1,1,2-Trichloroethane		79-00-5	8260B	ND		0.50	0.40	ug/L	1
Trichloroethene		79-01-6	8260B	2.3		0.50	0.40	ug/L	1
Trichlorofluoromethane		75-69-4	8260B	ND		0.50	0.40	ug/L	1
Vinyl chloride		75-01-4	8260B	ND		0.50	0.40	ug/L	1
m+p - Xylenes		179601-23-1	8260B	ND		0.50	0.40	ug/L	1
o - Xylenes		95-47-6	8260B	ND		0.50	0.40	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits						
1,2-Dichloroethane-d4		100	70-130						
Bromofluorobenzene		97	70-130						
Toluene-d8		105	70-130						

PQL = Precision quantitation limit E = Detected in the method blank E = Quantitation of compound measured the calibration (30%) H = Unit of holding time
 ND = Not detected below the MDL J = E: (measured result - PQL) / MDL F = The FFD between two adjacent columns (less than 40%) U = Error (x) / unit of detection
 Other applicable limit example: 300 ppm reported on dry weight basis and flagged with a "J"

Volatile Organic Compounds by GC/MS

Client: Tetra Tech EM Inc.	Laboratory ID: RJ20010-006
Description: PSS-SW-01	Matrix: Aqueous
Date Sampled: 10/18/2016 1330	
Date Received: 10/20/2016	

Run 1	Prep Method 5030B	Analytical Method 8260B	Dilution 5	Analysis Date 10/21/2016	Analyst 1710 TML	Prep Date	Batch 24888		
Parameter		CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone		67-64-1	8260B	ND		50	10	ug/L	1
Benzene		71-43-2	8260B	ND		2.5	2.0	ug/L	1
Bromochloromethane		74-97-5	8260B	ND		2.5	2.0	ug/L	1
Bromodichloromethane		75-27-4	8260B	ND		2.5	2.0	ug/L	1
Bromoform		75-25-2	8260B	ND		2.5	2.0	ug/L	1
Bromomethane (Methyl bromide)		74-83-9	8260B	ND		2.5	2.0	ug/L	1
2-Butanone (MEK)		78-93-3	8260B	ND		50	10	ug/L	1
Carbon disulfide		75-15-0	8260B	ND		2.5	2.0	ug/L	1
Carbon tetrachloride		56-23-5	8260B	ND		2.5	2.0	ug/L	1
Chlorobenzene		108-90-7	8260B	ND		2.5	2.0	ug/L	1
Chloroethane		75-00-3	8260B	ND		2.5	2.0	ug/L	1
Chloroform		67-66-3	8260B	2.8		2.5	2.0	ug/L	1
Chloromethane (Methyl chloride)		74-87-3	8260B	ND		2.5	2.0	ug/L	1
Cyclohexane		110-82-7	8260B	ND		2.5	2.0	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)		96-12-8	8260B	ND		2.5	2.0	ug/L	1
Dibromochloromethane		124-48-1	8260B	ND		2.5	2.0	ug/L	1
1,2-Dibromoethane (EDB)		106-93-4	8260B	ND		2.5	2.0	ug/L	1
1,2-Dichlorobenzene		95-50-1	8260B	ND		2.5	2.0	ug/L	1
1,3-Dichlorobenzene		541-73-1	8260B	ND		2.5	2.0	ug/L	1
1,4-Dichlorobenzene		106-46-7	8260B	ND		2.5	2.0	ug/L	1
Dichlorodifluoromethane		75-71-8	8260B	ND		2.5	2.0	ug/L	1
1,1-Dichloroethane		75-34-3	8260B	2.9		2.5	2.0	ug/L	1
1,2-Dichloroethane		107-06-2	8260B	ND		2.5	2.0	ug/L	1
1,1-Dichloroethene		75-35-4	8260B	100		2.5	2.0	ug/L	1
cis-1,2-Dichloroethene		156-59-2	8260B	280		2.5	2.0	ug/L	1
trans-1,2-Dichloroethene		156-60-5	8260B	ND		2.5	2.0	ug/L	1
1,2-Dichloropropane		78-87-5	8260B	ND		2.5	2.0	ug/L	1
cis-1,3-Dichloropropene		10061-01-5	8260B	ND		2.5	2.0	ug/L	1
trans-1,3-Dichloropropene		10061-02-6	8260B	ND		2.5	2.0	ug/L	1
1,4-Dioxane		123-91-1	8260B	ND	100	67	ug/L	1	
Ethylbenzene		100-41-4	8260B	ND	2.5	2.0	ug/L	1	
2-Hexanone		591-78-6	8260B	ND	50	10	ug/L	1	
Isopropylbenzene		98-82-8	8260B	ND	2.5	2.0	ug/L	1	
Methyl acetate		79-20-9	8260B	ND	5.0	2.0	ug/L	1	
Methyl tertiary butyl ether (MTBE)		1634-04-4	8260B	ND	2.5	2.0	ug/L	1	
4-Methyl-2-pentanone		108-10-1	8260B	ND	50	10	ug/L	1	
Methylcyclohexane		108-87-2	8260B	ND	25	2.0	ug/L	1	
Methylene chloride		75-09-2	8260B	ND	2.5	2.0	ug/L	1	
Styrene		100-42-5	8260B	ND	2.5	2.0	ug/L	1	
1,1,2,2-Tetrachloroethane		79-34-5	8260B	ND	2.5	2.0	ug/L	1	
Tetrachloroethene		127-18-4	8260B	410		2.5	2.0	ug/L	1
Toluene		108-88-3	8260B	ND	2.5	2.0	ug/L	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane		76-13-1	8260B	ND	2.5	2.0	ug/L	1	
1,2,3-Trichlorobenzene		87-61-6	8260B	ND	2.5	2.0	ug/L	1	

PQL = Preset Quantitation Limit

E = Detected in the method blank

E = Quantitated compound measured the calibration range

H = Unit of holding time

ND = Not detected below the MDL

J = Estimated result - PQL and MDL

F = The FEP between the E column and the 40 ppm

H = Factor to convert to ug/L

Note: Sample dilution factor reported on the weight basis and is flagged with a "Z"

Volatile Organic Compounds by GC/MS

Client: Tetra Tech EM Inc.	Laboratory ID: RJ20010-006
Description: PSS-SW-01	Matrix: Aqueous
Date Sampled: 10/18/2016 1330	
Date Received: 10/20/2016	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260B	5	10/21/2016	1710 TML		24888		
Parameter		CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2,4-Trichlorobenzene		120-82-1	8260B	ND		2.5	2.0	ug/L	1
1,1,1-Trichloroethane		71-55-6	8260B	2.7		2.5	2.0	ug/L	1
1,1,2-Trichloroethane		79-00-5	8260B	ND		2.5	2.0	ug/L	1
Trichloroethene		79-01-6	8260B	530		2.5	2.0	ug/L	1
Trichlorofluoromethane		75-69-4	8260B	ND		2.5	2.0	ug/L	1
Vinyl chloride		75-01-4	8260B	5.7		2.5	2.0	ug/L	1
m+p - Xylenes		179601-23-1	8260B	ND		2.5	2.0	ug/L	1
o - Xylenes		95-47-6	8260B	ND		2.5	2.0	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits						
1,2-Dichloroethane-d4		100	70-130						
Bromofluorobenzene		99	70-130						
Toluene-d8		106	70-130						

PQL = Precision quantitation limit E = Detected in the method blank E = Quantitation of compound measured the calibration (30%) H = Unit of holding time
 MDL = Limit of detection, 3 times the PQL J = E: (measured result - PQL) / MDL F = The FFD between two adjacent columns (approx. 400nm) U = Factor used to dilute sample
 2000 ug/g sample (all four samples are reported on a dry weight basis) and is flagged with a "U"

Volatile Organic Compounds by GC/MS

Client: Tetra Tech EM Inc.	Laboratory ID: RJ20010-007
Description: PSS-SW-03	Matrix: Aqueous
Date Sampled: 10/18/2016 1400	
Date Received: 10/20/2016	

Run 1	Prep Method 5030B	Analytical Method 8260B	Dilution 1	Analysis Date 10/21/2016	Analyst 1344 TML	Prep Date	Batch 24888		
Parameter		CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone		67-64-1	8260B	4.8	J	10	2.0	ug/L	1
Benzene		71-43-2	8260B	ND		0.50	0.40	ug/L	1
Bromochloromethane		74-97-5	8260B	ND		0.50	0.40	ug/L	1
Bromodichloromethane		75-27-4	8260B	ND		0.50	0.40	ug/L	1
Bromoform		75-25-2	8260B	ND		0.50	0.40	ug/L	1
Bromomethane (Methyl bromide)		74-83-9	8260B	ND		0.50	0.40	ug/L	1
2-Butanone (MEK)		78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide		75-15-0	8260B	ND		0.50	0.40	ug/L	1
Carbon tetrachloride		56-23-5	8260B	ND		0.50	0.40	ug/L	1
Chlorobenzene		108-90-7	8260B	ND		0.50	0.40	ug/L	1
Chloroethane		75-00-3	8260B	ND		0.50	0.40	ug/L	1
Chloroform		67-66-3	8260B	0.46	J	0.50	0.40	ug/L	1
Chloromethane (Methyl chloride)		74-87-3	8260B	ND		0.50	0.40	ug/L	1
Cyclohexane		110-82-7	8260B	ND		0.50	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)		96-12-8	8260B	ND		0.50	0.40	ug/L	1
Dibromochloromethane		124-48-1	8260B	ND		0.50	0.40	ug/L	1
1,2-Dibromoethane (EDB)		106-93-4	8260B	ND		0.50	0.40	ug/L	1
1,2-Dichlorobenzene		95-50-1	8260B	ND		0.50	0.40	ug/L	1
1,3-Dichlorobenzene		541-73-1	8260B	ND		0.50	0.40	ug/L	1
1,4-Dichlorobenzene		106-46-7	8260B	ND		0.50	0.40	ug/L	1
Dichlorodifluoromethane		75-71-8	8260B	ND		0.50	0.40	ug/L	1
1,1-Dichloroethane		75-34-3	8260B	1.6		0.50	0.40	ug/L	1
1,2-Dichloroethane		107-06-2	8260B	ND		0.50	0.40	ug/L	1
1,1-Dichloroethene		75-35-4	8260B	32		0.50	0.40	ug/L	1
cis-1,2-Dichloroethene		156-59-2	8260B	11		0.50	0.40	ug/L	1
trans-1,2-Dichloroethene		156-60-5	8260B	ND		0.50	0.40	ug/L	1
1,2-Dichloropropane		78-87-5	8260B	ND		0.50	0.40	ug/L	1
cis-1,3-Dichloropropene		10061-01-5	8260B	ND		0.50	0.40	ug/L	1
trans-1,3-Dichloropropene		10061-02-6	8260B	ND		0.50	0.40	ug/L	1
1,4-Dioxane		123-91-1	8260B	30		20	13	ug/L	1
Ethylbenzene		100-41-4	8260B	ND		0.50	0.40	ug/L	1
2-Hexanone		591-78-6	8260B	ND		10	2.0	ug/L	1
Isopropylbenzene		98-82-8	8260B	ND		0.50	0.40	ug/L	1
Methyl acetate		79-20-9	8260B	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)		1634-04-4	8260B	ND		0.50	0.40	ug/L	1
4-Methyl-2-pentanone		108-10-1	8260B	ND		10	2.0	ug/L	1
Methylcyclohexane		108-87-2	8260B	ND		5.0	0.40	ug/L	1
Methylene chloride		75-09-2	8260B	ND		0.50	0.40	ug/L	1
Styrene		100-42-5	8260B	ND		0.50	0.40	ug/L	1
1,1,2,2-Tetrachloroethane		79-34-5	8260B	ND		0.50	0.40	ug/L	1
Tetrachloroethene		127-18-4	8260B	53		0.50	0.40	ug/L	1
Toluene		108-88-3	8260B	0.60		0.50	0.40	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane		76-13-1	8260B	ND		0.50	0.40	ug/L	1
1,2,3-Trichlorobenzene		87-61-6	8260B	ND		0.50	0.40	ug/L	1

PQL = Preset Quantitation Limit

E = Detected in the method blank

E = Quantitated compound measured the calibration range

H = Unit of holding time

MDL = Limit of detection of the MDL

J = Estimated result PQL and MDL

F = The FID between two columns was at 400%

H = Factor of 10 of MDL

Other applicable limit values are reported on a dry weight basis and is flagged with a "D"

Volatile Organic Compounds by GC/MS

Client: Tetra Tech EM Inc.	Laboratory ID: RJ20010-007
Description: PSS-SW-03	Matrix: Aqueous
Date Sampled: 10/18/2016 1400	
Date Received: 10/20/2016	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260B	1	10/21/2016 1344	TML		24888		
Parameter		CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2,4-Trichlorobenzene		120-82-1	8260B	ND		0.50	0.40	ug/L	1
1,1,1-Trichloroethane		71-55-6	8260B	8.8		0.50	0.40	ug/L	1
1,1,2-Trichloroethane		79-00-5	8260B	ND		0.50	0.40	ug/L	1
Trichloroethene		79-01-6	8260B	30		0.50	0.40	ug/L	1
Trichlorofluoromethane		75-69-4	8260B	ND		0.50	0.40	ug/L	1
Vinyl chloride		75-01-4	8260B	1.0		0.50	0.40	ug/L	1
m+p - Xylenes		179601-23-1	8260B	ND		0.50	0.40	ug/L	1
o - Xylenes		95-47-6	8260B	ND		0.50	0.40	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits						
1,2-Dichloroethane-d4		106	70-130						
Bromofluorobenzene		99	70-130						
Toluene-d8		104	70-130						

PQL = Precision quantitation limit E = Detected in the method blank E = Quantitation of compound measured the calibration (30%) H = Unit of holding time
 MDL = Limit of detection, 3 times the MDL J = E: (measured result - PQL) / MDL F = The FFD between two adjacent columns (approx. 400nm) U = Error of x (1 unit of 0.01)
 Note: Sample 300 mL soil sample (300 mL water) reported on dry weight basis and dilution with 3 "A"

Volatile Organic Compounds by GC/MS

Client: Tetra Tech EM Inc.	Laboratory ID: RJ20010-008
Description: PSS-GW-MW295	Matrix: Aqueous
Date Sampled: 10/18/2016 1425	
Date Received: 10/20/2016	

Run 1	Prep Method 5030B	Analytical Method 8260B	Dilution 1	Analysis Date 10/21/2016	Analyst 1407 TML	Prep Date	Batch 24888		
Parameter		CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone		67-64-1	8260B	ND		10	2.0	ug/L	1
Benzene		71-43-2	8260B	ND		0.50	0.40	ug/L	1
Bromochloromethane		74-97-5	8260B	ND		0.50	0.40	ug/L	1
Bromodichloromethane		75-27-4	8260B	ND		0.50	0.40	ug/L	1
Bromoform		75-25-2	8260B	ND		0.50	0.40	ug/L	1
Bromomethane (Methyl bromide)		74-83-9	8260B	ND		0.50	0.40	ug/L	1
2-Butanone (MEK)		78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide		75-15-0	8260B	ND		0.50	0.40	ug/L	1
Carbon tetrachloride		56-23-5	8260B	ND		0.50	0.40	ug/L	1
Chlorobenzene		108-90-7	8260B	ND		0.50	0.40	ug/L	1
Chloroethane		75-00-3	8260B	ND		0.50	0.40	ug/L	1
Chloroform		67-66-3	8260B	ND		0.50	0.40	ug/L	1
Chloromethane (Methyl chloride)		74-87-3	8260B	ND		0.50	0.40	ug/L	1
Cyclohexane		110-82-7	8260B	ND		0.50	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)		96-12-8	8260B	ND		0.50	0.40	ug/L	1
Dibromochloromethane		124-48-1	8260B	ND		0.50	0.40	ug/L	1
1,2-Dibromoethane (EDB)		106-93-4	8260B	ND		0.50	0.40	ug/L	1
1,2-Dichlorobenzene		95-50-1	8260B	ND		0.50	0.40	ug/L	1
1,3-Dichlorobenzene		541-73-1	8260B	ND		0.50	0.40	ug/L	1
1,4-Dichlorobenzene		106-46-7	8260B	ND		0.50	0.40	ug/L	1
Dichlorodifluoromethane		75-71-8	8260B	ND		0.50	0.40	ug/L	1
1,1-Dichloroethane		75-34-3	8260B	1.6		0.50	0.40	ug/L	1
1,2-Dichloroethane		107-06-2	8260B	ND		0.50	0.40	ug/L	1
1,1-Dichloroethene		75-35-4	8260B	4.4		0.50	0.40	ug/L	1
cis-1,2-Dichloroethene		156-59-2	8260B	20		0.50	0.40	ug/L	1
trans-1,2-Dichloroethene		156-60-5	8260B	ND		0.50	0.40	ug/L	1
1,2-Dichloropropane		78-87-5	8260B	ND		0.50	0.40	ug/L	1
cis-1,3-Dichloropropene		10061-01-5	8260B	ND		0.50	0.40	ug/L	1
trans-1,3-Dichloropropene		10061-02-6	8260B	ND		0.50	0.40	ug/L	1
1,4-Dioxane		123-91-1	8260B	31		20	13	ug/L	1
Ethylbenzene		100-41-4	8260B	ND		0.50	0.40	ug/L	1
2-Hexanone		591-78-6	8260B	ND		10	2.0	ug/L	1
Isopropylbenzene		98-82-8	8260B	ND		0.50	0.40	ug/L	1
Methyl acetate		79-20-9	8260B	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)		1634-04-4	8260B	ND		0.50	0.40	ug/L	1
4-Methyl-2-pentanone		108-10-1	8260B	ND		10	2.0	ug/L	1
Methylcyclohexane		108-87-2	8260B	ND		5.0	0.40	ug/L	1
Methylene chloride		75-09-2	8260B	ND		0.50	0.40	ug/L	1
Styrene		100-42-5	8260B	ND		0.50	0.40	ug/L	1
1,1,2,2-Tetrachloroethane		79-34-5	8260B	ND		0.50	0.40	ug/L	1
Tetrachloroethene		127-18-4	8260B	55		0.50	0.40	ug/L	1
Toluene		108-88-3	8260B	ND		0.50	0.40	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane		76-13-1	8260B	ND		0.50	0.40	ug/L	1
1,2,3-Trichlorobenzene		87-61-6	8260B	ND		0.50	0.40	ug/L	1

PQL = Preset Quantitation Limit

E = Detected in the method blank

E = Quantified compound measured the calibration range

H = Unit of holding time

ND = Not detected; 3 times the MDL

J = Estimated result; PQL and >MDL

F = The FID between two columns measured at 40°C

H = Error (CV) of holding time

A three digit value (e.g. 300) is reported on a six digit scale and is followed with a "%".

Volatile Organic Compounds by GC/MS

Client: Tetra Tech EM Inc.	Laboratory ID: RJ20010-008
Description: PSS-GW-MW295	Matrix: Aqueous
Date Sampled: 10/18/2016 1425	
Date Received: 10/20/2016	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260B	1	10/21/2016 1407	TML		24888		
Parameter		CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2,4-Trichlorobenzene		120-82-1	8260B	ND		0.50	0.40	ug/L	1
1,1,1-Trichloroethane		71-55-6	8260B	ND		0.50	0.40	ug/L	1
1,1,2-Trichloroethane		79-00-5	8260B	ND		0.50	0.40	ug/L	1
Trichloroethene		79-01-6	8260B	25		0.50	0.40	ug/L	1
Trichlorofluoromethane		75-69-4	8260B	0.66		0.50	0.40	ug/L	1
Vinyl chloride		75-01-4	8260B	ND		0.50	0.40	ug/L	1
m+p - Xylenes		179601-23-1	8260B	ND		0.50	0.40	ug/L	1
o - Xylenes		95-47-6	8260B	ND		0.50	0.40	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits						
1,2-Dichloroethane-d4		100	70-130						
Bromofluorobenzene		94	70-130						
Toluene-d8		104	70-130						

PQL = Precision quantitation limit E = Detected in the method blank E = Quantitation of compound measured the calibration (30%) H = Unit of holding time
 MDL = Limit of detection, 3 times the MDL J = E: (measured result - PQL) / MDL F = The FFD between two adjacent columns (less than 40%) U = Error of x (1 unit of 0.01)
 Note: Sample 300 mL soil sample 300 mL water reported on dry weight basis and flagged with a "N"

Volatile Organic Compounds by GC/MS

Client: Tetra Tech EM Inc.	Laboratory ID: RJ20010-009
Description: PSS-SW-02	Matrix: Aqueous
Date Sampled: 10/18/2016 1530	
Date Received: 10/20/2016	

Run 1	Prep Method 5030B	Analytical Method 8260B	Dilution 1	Analysis Date 10/21/2016	Analyst TML	Prep Date	Batch 24888		
Parameter		CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone		67-64-1	8260B	ND		10	2.0	ug/L	1
Benzene		71-43-2	8260B	ND		0.50	0.40	ug/L	1
Bromochloromethane		74-97-5	8260B	ND		0.50	0.40	ug/L	1
Bromodichloromethane		75-27-4	8260B	ND		0.50	0.40	ug/L	1
Bromoform		75-25-2	8260B	ND		0.50	0.40	ug/L	1
Bromomethane (Methyl bromide)		74-83-9	8260B	ND		0.50	0.40	ug/L	1
2-Butanone (MEK)		78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide		75-15-0	8260B	ND		0.50	0.40	ug/L	1
Carbon tetrachloride		56-23-5	8260B	ND		0.50	0.40	ug/L	1
Chlorobenzene		108-90-7	8260B	ND		0.50	0.40	ug/L	1
Chloroethane		75-00-3	8260B	ND		0.50	0.40	ug/L	1
Chloroform		67-66-3	8260B	ND		0.50	0.40	ug/L	1
Chloromethane (Methyl chloride)		74-87-3	8260B	ND		0.50	0.40	ug/L	1
Cyclohexane		110-82-7	8260B	ND		0.50	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)		96-12-8	8260B	ND		0.50	0.40	ug/L	1
Dibromochloromethane		124-48-1	8260B	ND		0.50	0.40	ug/L	1
1,2-Dibromoethane (EDB)		106-93-4	8260B	ND		0.50	0.40	ug/L	1
1,2-Dichlorobenzene		95-50-1	8260B	ND		0.50	0.40	ug/L	1
1,3-Dichlorobenzene		541-73-1	8260B	ND		0.50	0.40	ug/L	1
1,4-Dichlorobenzene		106-46-7	8260B	ND		0.50	0.40	ug/L	1
Dichlorodifluoromethane		75-71-8	8260B	ND		0.50	0.40	ug/L	1
1,1-Dichloroethane		75-34-3	8260B	0.86		0.50	0.40	ug/L	1
1,2-Dichloroethane		107-06-2	8260B	ND		0.50	0.40	ug/L	1
1,1-Dichloroethene		75-35-4	8260B	13		0.50	0.40	ug/L	1
cis-1,2-Dichloroethene		156-59-2	8260B	10		0.50	0.40	ug/L	1
trans-1,2-Dichloroethene		156-60-5	8260B	ND		0.50	0.40	ug/L	1
1,2-Dichloropropane		78-87-5	8260B	ND		0.50	0.40	ug/L	1
cis-1,3-Dichloropropene		10061-01-5	8260B	ND		0.50	0.40	ug/L	1
trans-1,3-Dichloropropene		10061-02-6	8260B	ND		0.50	0.40	ug/L	1
1,4-Dioxane		123-91-1	8260B	33		20	13	ug/L	1
Ethylbenzene		100-41-4	8260B	ND		0.50	0.40	ug/L	1
2-Hexanone		591-78-6	8260B	ND		10	2.0	ug/L	1
Isopropylbenzene		98-82-8	8260B	ND		0.50	0.40	ug/L	1
Methyl acetate		79-20-9	8260B	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)		1634-04-4	8260B	ND		0.50	0.40	ug/L	1
4-Methyl-2-pentanone		108-10-1	8260B	ND		10	2.0	ug/L	1
Methylcyclohexane		108-87-2	8260B	ND		5.0	0.40	ug/L	1
Methylene chloride		75-09-2	8260B	ND		0.50	0.40	ug/L	1
Styrene		100-42-5	8260B	ND		0.50	0.40	ug/L	1
1,1,2,2-Tetrachloroethane		79-34-5	8260B	ND		0.50	0.40	ug/L	1
Tetrachloroethene		127-18-4	8260B	16		0.50	0.40	ug/L	1
Toluene		108-88-3	8260B	ND		0.50	0.40	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane		76-13-1	8260B	ND		0.50	0.40	ug/L	1
1,2,3-Trichlorobenzene		87-61-6	8260B	ND		0.50	0.40	ug/L	1

PQL = Preset Quantitation Limit

E = Detected in the method blank

E = Quantitated compound measured the calibration range

H = Unit of holding time

ND = Not detected; 3 times the MDL

J = Estimated result - PQL and > MDL

F = The FID between two columns measured at 40 ppm

H = Error (CV) out of control

A value below 30% error is reported on a dry weight basis and is flagged with a "J"

Volatile Organic Compounds by GC/MS

Client: Tetra Tech EM Inc.	Laboratory ID: RJ20010-009
Description: PSS-SW-02	Matrix: Aqueous
Date Sampled: 10/18/2016 1530	
Date Received: 10/20/2016	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260B	1	10/21/2016 1430	TML		24888		
Parameter		CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2,4-Trichlorobenzene		120-82-1	8260B	ND		0.50	0.40	ug/L	1
1,1,1-Trichloroethane		71-55-6	8260B	3.1		0.50	0.40	ug/L	1
1,1,2-Trichloroethane		79-00-5	8260B	ND		0.50	0.40	ug/L	1
Trichloroethene		79-01-6	8260B	14		0.50	0.40	ug/L	1
Trichlorofluoromethane		75-69-4	8260B	ND		0.50	0.40	ug/L	1
Vinyl chloride		75-01-4	8260B	0.60		0.50	0.40	ug/L	1
m+p - Xylenes		179601-23-1	8260B	ND		0.50	0.40	ug/L	1
o - Xylenes		95-47-6	8260B	ND		0.50	0.40	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits						
1,2-Dichloroethane-d4		98	70-130						
Bromofluorobenzene		95	70-130						
Toluene-d8		103	70-130						

PQL = Precision quantitation limit E = Detected in the method blank E = Quantitation of compound measured the calibration (30%) H = Unit of holding time
 MDL = Limit of detection, 3 times the PQL J = E: (measured result - PQL) / MDL F = The FFD between two adjacent columns (less than 40%) U = Error of x (1 unit of error)
 Note: Sample 300 mL soil sample (no reported on dry weight basis) and 300 mL water sample with 3 "A"

Volatile Organic Compounds by GC/MS

Client: Tetra Tech EM Inc.	Laboratory ID: RJ20010-010
Description: PSS-GW-275	Matrix: Aqueous
Date Sampled: 10/18/2016 1610	
Date Received: 10/20/2016	

Run 1	Prep Method 5030B	Analytical Method 8260B	Dilution 20	Analysis Date 10/21/2016	Analyst TML	Prep Date	Batch 24888		
Parameter		CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone		67-64-1	8260B	ND		200	40	ug/L	1
Benzene		71-43-2	8260B	ND		10	8.0	ug/L	1
Bromochloromethane		74-97-5	8260B	ND		10	8.0	ug/L	1
Bromodichloromethane		75-27-4	8260B	ND		10	8.0	ug/L	1
Bromoform		75-25-2	8260B	ND		10	8.0	ug/L	1
Bromomethane (Methyl bromide)		74-83-9	8260B	ND		10	8.0	ug/L	1
2-Butanone (MEK)		78-93-3	8260B	ND		200	40	ug/L	1
Carbon disulfide		75-15-0	8260B	ND		10	8.0	ug/L	1
Carbon tetrachloride		56-23-5	8260B	ND		10	8.0	ug/L	1
Chlorobenzene		108-90-7	8260B	ND		10	8.0	ug/L	1
Chloroethane		75-00-3	8260B	ND		10	8.0	ug/L	1
Chloroform		67-66-3	8260B	ND		10	8.0	ug/L	1
Chloromethane (Methyl chloride)		74-87-3	8260B	ND		10	8.0	ug/L	1
Cyclohexane		110-82-7	8260B	ND		10	8.0	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)		96-12-8	8260B	ND		10	8.0	ug/L	1
Dibromochloromethane		124-48-1	8260B	ND		10	8.0	ug/L	1
1,2-Dibromoethane (EDB)		106-93-4	8260B	ND		10	8.0	ug/L	1
1,2-Dichlorobenzene		95-50-1	8260B	ND		10	8.0	ug/L	1
1,3-Dichlorobenzene		541-73-1	8260B	ND		10	8.0	ug/L	1
1,4-Dichlorobenzene		106-46-7	8260B	ND		10	8.0	ug/L	1
Dichlorodifluoromethane		75-71-8	8260B	ND		10	8.0	ug/L	1
1,1-Dichloroethane		75-34-3	8260B	ND		10	8.0	ug/L	1
1,2-Dichloroethane		107-06-2	8260B	ND		10	8.0	ug/L	1
1,1-Dichloroethene		75-35-4	8260B	69		10	8.0	ug/L	1
cis-1,2-Dichloroethene		156-59-2	8260B	66		10	8.0	ug/L	1
trans-1,2-Dichloroethene		156-60-5	8260B	ND		10	8.0	ug/L	1
1,2-Dichloropropane		78-87-5	8260B	ND		10	8.0	ug/L	1
cis-1,3-Dichloropropene		10061-01-5	8260B	ND		10	8.0	ug/L	1
trans-1,3-Dichloropropene		10061-02-6	8260B	ND		10	8.0	ug/L	1
1,4-Dioxane		123-91-1	8260B	ND		400	270	ug/L	1
Ethylbenzene		100-41-4	8260B	ND		10	8.0	ug/L	1
2-Hexanone		591-78-6	8260B	ND		200	40	ug/L	1
Isopropylbenzene		98-82-8	8260B	ND		10	8.0	ug/L	1
Methyl acetate		79-20-9	8260B	ND		20	8.0	ug/L	1
Methyl tertiary butyl ether (MTBE)		1634-04-4	8260B	ND		10	8.0	ug/L	1
4-Methyl-2-pentanone		108-10-1	8260B	ND		200	40	ug/L	1
Methylcyclohexane		108-87-2	8260B	ND		100	8.0	ug/L	1
Methylene chloride		75-09-2	8260B	ND		10	8.0	ug/L	1
Styrene		100-42-5	8260B	ND		10	8.0	ug/L	1
1,1,2,2-Tetrachloroethane		79-34-5	8260B	ND		10	8.0	ug/L	1
Tetrachloroethene		127-18-4	8260B	850		10	8.0	ug/L	1
Toluene		108-88-3	8260B	ND		10	8.0	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane		76-13-1	8260B	ND		10	8.0	ug/L	1
1,2,3-Trichlorobenzene		87-61-6	8260B	ND		10	8.0	ug/L	1

PQL = Preset Quantitation Limit

E = Detected in the method blank

E = Quantitated compound measured the calibration range

H = Unit of holding time

ND = Not detected; < the MDL

J = Estimated result - PQL and MDL

F = The FID between two columns was at 400%

H = Factor to convert to ug/L

A sample held until sample ran reported on a dry weight basis and flagged with a "J"

Volatile Organic Compounds by GC/MS

Client: Tetra Tech EM Inc.	Laboratory ID: RJ20010-010
Description: PSS-GW-275	Matrix: Aqueous
Date Sampled: 10/18/2016 1610	
Date Received: 10/20/2016	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260B	20	10/21/2016 1733	TML		24888		
Parameter		CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2,4-Trichlorobenzene		120-82-1	8260B	ND		10	8.0	ug/L	1
1,1,1-Trichloroethane		71-55-6	8260B	ND		10	8.0	ug/L	1
1,1,2-Trichloroethane		79-00-5	8260B	ND		10	8.0	ug/L	1
Trichloroethene		79-01-6	8260B	360		10	8.0	ug/L	1
Trichlorofluoromethane		75-69-4	8260B	ND		10	8.0	ug/L	1
Vinyl chloride		75-01-4	8260B	ND		10	8.0	ug/L	1
m+p - Xylenes		179601-23-1	8260B	ND		10	8.0	ug/L	1
o - Xylenes		95-47-6	8260B	ND		10	8.0	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits						
1,2-Dichloroethane-d4		102	70-130						
Bromofluorobenzene		99	70-130						
Toluene-d8		103	70-130						

PQL = Precision quantitation limit E = Detected in the method blank E = Quantitation of compound associated with calibration (30%) H = Unit of holding time
 ND = Not detected below the MDL J = E:implied result - PQL and > MDL F = The FFD between two adjacent columns is less than 40% U = Error (x) is out of control
 Other applicable limit example: 300 ppm reported on 500 mg weight basis and is flagged with a "J"

Volatile Organic Compounds by GC/MS

Client: Tetra Tech EM Inc.	Laboratory ID: RJ20010-011
Description: PSS-GW-MW3351	Matrix: Aqueous
Date Sampled: 10/18/2016 1705	
Date Received: 10/20/2016	

Run 1	Prep Method 5030B	Analytical Method 8260B	Dilution 1	Analysis Date 10/21/2016	Analyst 1453 TML	Prep Date	Batch 24888		
Parameter		CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone		67-64-1	8260B	ND		10	2.0	ug/L	1
Benzene		71-43-2	8260B	ND		0.50	0.40	ug/L	1
Bromochloromethane		74-97-5	8260B	ND		0.50	0.40	ug/L	1
Bromodichloromethane		75-27-4	8260B	ND		0.50	0.40	ug/L	1
Bromoform		75-25-2	8260B	ND		0.50	0.40	ug/L	1
Bromomethane (Methyl bromide)		74-83-9	8260B	ND		0.50	0.40	ug/L	1
2-Butanone (MEK)		78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide		75-15-0	8260B	ND		0.50	0.40	ug/L	1
Carbon tetrachloride		56-23-5	8260B	ND		0.50	0.40	ug/L	1
Chlorobenzene		108-90-7	8260B	ND		0.50	0.40	ug/L	1
Chloroethane		75-00-3	8260B	ND		0.50	0.40	ug/L	1
Chloroform		67-66-3	8260B	ND		0.50	0.40	ug/L	1
Chloromethane (Methyl chloride)		74-87-3	8260B	ND		0.50	0.40	ug/L	1
Cyclohexane		110-82-7	8260B	ND		0.50	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)		96-12-8	8260B	ND		0.50	0.40	ug/L	1
Dibromochloromethane		124-48-1	8260B	ND		0.50	0.40	ug/L	1
1,2-Dibromoethane (EDB)		106-93-4	8260B	ND		0.50	0.40	ug/L	1
1,2-Dichlorobenzene		95-50-1	8260B	ND		0.50	0.40	ug/L	1
1,3-Dichlorobenzene		541-73-1	8260B	ND		0.50	0.40	ug/L	1
1,4-Dichlorobenzene		106-46-7	8260B	ND		0.50	0.40	ug/L	1
Dichlorodifluoromethane		75-71-8	8260B	ND		0.50	0.40	ug/L	1
1,1-Dichloroethane		75-34-3	8260B	ND		0.50	0.40	ug/L	1
1,2-Dichloroethane		107-06-2	8260B	ND		0.50	0.40	ug/L	1
1,1-Dichloroethene		75-35-4	8260B	ND		0.50	0.40	ug/L	1
cis-1,2-Dichloroethene		156-59-2	8260B	ND		0.50	0.40	ug/L	1
trans-1,2-Dichloroethene		156-60-5	8260B	ND		0.50	0.40	ug/L	1
1,2-Dichloropropane		78-87-5	8260B	ND		0.50	0.40	ug/L	1
cis-1,3-Dichloropropene		10061-01-5	8260B	ND		0.50	0.40	ug/L	1
trans-1,3-Dichloropropene		10061-02-6	8260B	ND		0.50	0.40	ug/L	1
1,4-Dioxane		123-91-1	8260B	ND		20	13	ug/L	1
Ethylbenzene		100-41-4	8260B	ND		0.50	0.40	ug/L	1
2-Hexanone		591-78-6	8260B	ND		10	2.0	ug/L	1
Isopropylbenzene		98-82-8	8260B	ND		0.50	0.40	ug/L	1
Methyl acetate		79-20-9	8260B	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)		1634-04-4	8260B	ND		0.50	0.40	ug/L	1
4-Methyl-2-pentanone		108-10-1	8260B	ND		10	2.0	ug/L	1
Methylcyclohexane		108-87-2	8260B	ND		5.0	0.40	ug/L	1
Methylene chloride		75-09-2	8260B	ND		0.50	0.40	ug/L	1
Styrene		100-42-5	8260B	ND		0.50	0.40	ug/L	1
1,1,2,2-Tetrachloroethane		79-34-5	8260B	ND		0.50	0.40	ug/L	1
Tetrachloroethene		127-18-4	8260B	ND		0.50	0.40	ug/L	1
Toluene		108-88-3	8260B	ND		0.50	0.40	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane		76-13-1	8260B	ND		0.50	0.40	ug/L	1
1,2,3-Trichlorobenzene		87-61-6	8260B	ND		0.50	0.40	ug/L	1

PQL = Preset Quantitation Limit

E = Detected in the method blank

E = Quantitation component measured the calibration range

H = Unit of holding time

ND = Not detected below the MDL

J = Estimated result - PQL and MDL

F = The FID between two columns was at 40%

H = Error of 1% out of 100

A three digit value is reported on a six digit scale and is followed with a "%"

Volatile Organic Compounds by GC/MS

Client: Tetra Tech EM Inc.	Laboratory ID: RJ20010-011
Description: PSS-GW-MW3351	Matrix: Aqueous
Date Sampled: 10/18/2016 1705	
Date Received: 10/20/2016	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260B	1	10/21/2016 1453	TML		24888		
Parameter		CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2,4-Trichlorobenzene		120-82-1	8260B	ND		0.50	0.40	ug/L	1
1,1,1-Trichloroethane		71-55-6	8260B	ND		0.50	0.40	ug/L	1
1,1,2-Trichloroethane		79-00-5	8260B	ND		0.50	0.40	ug/L	1
Trichloroethene		79-01-6	8260B	ND		0.50	0.40	ug/L	1
Trichlorofluoromethane		75-69-4	8260B	ND		0.50	0.40	ug/L	1
Vinyl chloride		75-01-4	8260B	ND		0.50	0.40	ug/L	1
m+p - Xylenes		179601-23-1	8260B	ND		0.50	0.40	ug/L	1
o - Xylenes		95-47-6	8260B	ND		0.50	0.40	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits						
1,2-Dichloroethane-d4		101	70-130						
Bromofluorobenzene		97	70-130						
Toluene-d8		107	70-130						

FQL = False Quantitation limit E = Detected in the method blank E = Quantitation of compound measured the calibration (50%) H = Unit of holding time
 MDL = Method detection limit = the FQL J = E: (measured result - FQL) / MDL F = The FFD between two adjacent columns (approx. 40%) U = Error (x 10^-6) of calibration
 Note: Sample 300 mL total sample = 300 mL reported on 50 g weight basis and is flagged with a "J"

Volatile Organic Compounds by GC/MS

Client: Tetra Tech EM Inc.

Laboratory ID: RJ20010-012

Description: **PSS-GW-MW3351-DUP**

Matrix: Aqueous

Date Sampled:10/18/2016 1710

Date Received: 10/20/2016

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
	1	5030B	8260B	1	10/21/2016	1516	TML		
Parameter		CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone		67-64-1	8260B	ND		10	2.0	ug/L	1
Benzene		71-43-2	8260B	ND		0.50	0.40	ug/L	1
Bromochloromethane		74-97-5	8260B	ND		0.50	0.40	ug/L	1
Bromodichloromethane		75-27-4	8260B	ND		0.50	0.40	ug/L	1
Bromoform		75-25-2	8260B	ND		0.50	0.40	ug/L	1
Bromomethane (Methyl bromide)		74-83-9	8260B	ND		0.50	0.40	ug/L	1
2-Butanone (MEK)		78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide		75-15-0	8260B	ND		0.50	0.40	ug/L	1
Carbon tetrachloride		56-23-5	8260B	ND		0.50	0.40	ug/L	1
Chlorobenzene		108-90-7	8260B	ND		0.50	0.40	ug/L	1
Chloroethane		75-00-3	8260B	ND		0.50	0.40	ug/L	1
Chloroform		67-66-3	8260B	ND		0.50	0.40	ug/L	1
Chloromethane (Methyl chloride)		74-87-3	8260B	ND		0.50	0.40	ug/L	1
Cyclohexane		110-82-7	8260B	ND		0.50	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)		96-12-8	8260B	ND		0.50	0.40	ug/L	1
Dibromochloromethane		124-48-1	8260B	ND		0.50	0.40	ug/L	1
1,2-Dibromoethane (EDB)		106-93-4	8260B	ND		0.50	0.40	ug/L	1
1,2-Dichlorobenzene		95-50-1	8260B	ND		0.50	0.40	ug/L	1
1,3-Dichlorobenzene		541-73-1	8260B	ND		0.50	0.40	ug/L	1
1,4-Dichlorobenzene		106-46-7	8260B	ND		0.50	0.40	ug/L	1
Dichlorodifluoromethane		75-71-8	8260B	ND		0.50	0.40	ug/L	1
1,1-Dichloroethane		75-34-3	8260B	ND		0.50	0.40	ug/L	1
1,2-Dichloroethane		107-06-2	8260B	ND		0.50	0.40	ug/L	1
1,1-Dichloroethene		75-35-4	8260B	ND		0.50	0.40	ug/L	1
cis-1,2-Dichloroethene		156-59-2	8260B	ND		0.50	0.40	ug/L	1
trans-1,2-Dichloroethene		156-60-5	8260B	ND		0.50	0.40	ug/L	1
1,2-Dichloropropane		78-87-5	8260B	ND		0.50	0.40	ug/L	1
cis-1,3-Dichloropropene		10061-01-5	8260B	ND		0.50	0.40	ug/L	1
trans-1,3-Dichloropropene		10061-02-6	8260B	ND		0.50	0.40	ug/L	1
1,4-Dioxane		123-91-1	8260B	ND		20	13	ug/L	1
Ethylbenzene		100-41-4	8260B	ND		0.50	0.40	ug/L	1
2-Hexanone		591-78-6	8260B	ND		10	2.0	ug/L	1
Isopropylbenzene		98-82-8	8260B	ND		0.50	0.40	ug/L	1
Methyl acetate		79-20-9	8260B	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)		1634-04-4	8260B	ND		0.50	0.40	ug/L	1
4-Methyl-2-pentanone		108-10-1	8260B	ND		10	2.0	ug/L	1
Methylcyclohexane		108-87-2	8260B	ND		5.0	0.40	ug/L	1
Methylene chloride		75-09-2	8260B	ND		0.50	0.40	ug/L	1
Styrene		100-42-5	8260B	ND		0.50	0.40	ug/L	1
1,1,2,2-Tetrachloroethane		79-34-5	8260B	ND		0.50	0.40	ug/L	1
Tetrachloroethene		127-18-4	8260B	ND		0.50	0.40	ug/L	1
Toluene		108-88-3	8260B	ND		0.50	0.40	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane		76-13-1	8260B	ND		0.50	0.40	ug/L	1
1,2,3-Trichlorobenzene		87-61-6	8260B	ND		0.50	0.40	ug/L	1

FQI = Fractile quantitation index

$E = \text{Entered}$ in the method block

$E =$ equilibrium of compound exceeded the equilibrium range $H =$ heat of holding time

range $H = \text{Out of holding time}$

ME = Most detected bit or block in the MDR

J = Estimate

Joint EOL and MD

F = The FFE between two (S) column: 400%

II = Fccccc- ω (x) out-of-plane bend

where 5 people share 500 kg of sample meat, one person reported only dry weight losses, under-tagged with a "001"

Volatile Organic Compounds by GC/MS

Client: Tetra Tech EM Inc.	Laboratory ID: RJ20010-012
Description: PSS-GW-MW3351-DUP	Matrix: Aqueous
Date Sampled: 10/18/2016 1710	
Date Received: 10/20/2016	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260B	1	10/21/2016 1516	TML		24888		
Parameter		CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2,4-Trichlorobenzene		120-82-1	8260B	ND		0.50	0.40	ug/L	1
1,1,1-Trichloroethane		71-55-6	8260B	ND		0.50	0.40	ug/L	1
1,1,2-Trichloroethane		79-00-5	8260B	ND		0.50	0.40	ug/L	1
Trichloroethene		79-01-6	8260B	ND		0.50	0.40	ug/L	1
Trichlorofluoromethane		75-69-4	8260B	ND		0.50	0.40	ug/L	1
Vinyl chloride		75-01-4	8260B	ND		0.50	0.40	ug/L	1
m+p - Xylenes		179601-23-1	8260B	ND		0.50	0.40	ug/L	1
o - Xylenes		95-47-6	8260B	ND		0.50	0.40	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits						
1,2-Dichloroethane-d4		98	70-130						
Bromofluorobenzene		95	70-130						
Toluene-d8		105	70-130						

PQL = Precision quantitation limit E = Detected in the method blank E = Quantitation of compound measured the calibration (30%) H = Unit of holding time
 MDL = Limit of detection, 3 times the MDL J = E: (measured result - PQL) / MDL F = The FFD between two adjacent columns (less than 40%) U = Error of x (1 unit of 0.05)
 Note: Sample 300 mL total sample (30 mL each) reported on dry weight basis and labeled with 3 "A"

Volatile Organic Compounds by GC/MS

Client: Tetra Tech EM Inc.	Laboratory ID: RJ20010-013
Description: PSS-FB	Matrix: Aqueous
Date Sampled: 10/18/2016 1715	
Date Received: 10/20/2016	

Run 1	Prep Method 5030B	Analytical Method 8260B	Dilution 1	Analysis Date 10/21/2016	Analyst 1126 TML	Prep Date	Batch 24888		
Parameter		CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone		67-64-1	8260B	ND		10	2.0	ug/L	1
Benzene		71-43-2	8260B	ND		0.50	0.40	ug/L	1
Bromochloromethane		74-97-5	8260B	ND		0.50	0.40	ug/L	1
Bromodichloromethane		75-27-4	8260B	ND		0.50	0.40	ug/L	1
Bromoform		75-25-2	8260B	ND		0.50	0.40	ug/L	1
Bromomethane (Methyl bromide)		74-83-9	8260B	ND		0.50	0.40	ug/L	1
2-Butanone (MEK)		78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide		75-15-0	8260B	ND		0.50	0.40	ug/L	1
Carbon tetrachloride		56-23-5	8260B	ND		0.50	0.40	ug/L	1
Chlorobenzene		108-90-7	8260B	ND		0.50	0.40	ug/L	1
Chloroethane		75-00-3	8260B	ND		0.50	0.40	ug/L	1
Chloroform		67-66-3	8260B	ND		0.50	0.40	ug/L	1
Chloromethane (Methyl chloride)		74-87-3	8260B	ND		0.50	0.40	ug/L	1
Cyclohexane		110-82-7	8260B	ND		0.50	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)		96-12-8	8260B	ND		0.50	0.40	ug/L	1
Dibromochloromethane		124-48-1	8260B	ND		0.50	0.40	ug/L	1
1,2-Dibromoethane (EDB)		106-93-4	8260B	ND		0.50	0.40	ug/L	1
1,2-Dichlorobenzene		95-50-1	8260B	ND		0.50	0.40	ug/L	1
1,3-Dichlorobenzene		541-73-1	8260B	ND		0.50	0.40	ug/L	1
1,4-Dichlorobenzene		106-46-7	8260B	ND		0.50	0.40	ug/L	1
Dichlorodifluoromethane		75-71-8	8260B	ND		0.50	0.40	ug/L	1
1,1-Dichloroethane		75-34-3	8260B	ND		0.50	0.40	ug/L	1
1,2-Dichloroethane		107-06-2	8260B	ND		0.50	0.40	ug/L	1
1,1-Dichloroethene		75-35-4	8260B	ND		0.50	0.40	ug/L	1
cis-1,2-Dichloroethene		156-59-2	8260B	ND		0.50	0.40	ug/L	1
trans-1,2-Dichloroethene		156-60-5	8260B	ND		0.50	0.40	ug/L	1
1,2-Dichloropropane		78-87-5	8260B	ND		0.50	0.40	ug/L	1
cis-1,3-Dichloropropene		10061-01-5	8260B	ND		0.50	0.40	ug/L	1
trans-1,3-Dichloropropene		10061-02-6	8260B	ND		0.50	0.40	ug/L	1
1,4-Dioxane		123-91-1	8260B	ND		20	13	ug/L	1
Ethylbenzene		100-41-4	8260B	ND		0.50	0.40	ug/L	1
2-Hexanone		591-78-6	8260B	ND		10	2.0	ug/L	1
Isopropylbenzene		98-82-8	8260B	ND		0.50	0.40	ug/L	1
Methyl acetate		79-20-9	8260B	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)		1634-04-4	8260B	ND		0.50	0.40	ug/L	1
4-Methyl-2-pentanone		108-10-1	8260B	ND		10	2.0	ug/L	1
Methylcyclohexane		108-87-2	8260B	ND		5.0	0.40	ug/L	1
Methylene chloride		75-09-2	8260B	ND		0.50	0.40	ug/L	1
Styrene		100-42-5	8260B	ND		0.50	0.40	ug/L	1
1,1,2,2-Tetrachloroethane		79-34-5	8260B	ND		0.50	0.40	ug/L	1
Tetrachloroethene		127-18-4	8260B	ND		0.50	0.40	ug/L	1
Toluene		108-88-3	8260B	ND		0.50	0.40	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane		76-13-1	8260B	ND		0.50	0.40	ug/L	1
1,2,3-Trichlorobenzene		87-61-6	8260B	ND		0.50	0.40	ug/L	1

PQL = Preset Quantitation Limit

E = Detected in the method blank

E = Quantitation component measured the calibration range

H = Unit of holding time

ND = Not detected below the MDL

J = Estimated result - PQL and MDL

F = The FID between two columns was at 40%

H = Error of 1% out of 100

A blank sample will sample 30.3 ml of air reported on a dry weight basis and is flagged with a "Z"

Volatile Organic Compounds by GC/MS

Client: Tetra Tech EM Inc.	Laboratory ID: RJ20010-013
Description: PSS-FB	Matrix: Aqueous
Date Sampled: 10/18/2016 1715	
Date Received: 10/20/2016	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260B	1	10/21/2016 1126	TML		24888		
Parameter		CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2,4-Trichlorobenzene		120-82-1	8260B	ND		0.50	0.40	ug/L	1
1,1,1-Trichloroethane		71-55-6	8260B	ND		0.50	0.40	ug/L	1
1,1,2-Trichloroethane		79-00-5	8260B	ND		0.50	0.40	ug/L	1
Trichloroethene		79-01-6	8260B	ND		0.50	0.40	ug/L	1
Trichlorofluoromethane		75-69-4	8260B	ND		0.50	0.40	ug/L	1
Vinyl chloride		75-01-4	8260B	ND		0.50	0.40	ug/L	1
m+p - Xylenes		179601-23-1	8260B	ND		0.50	0.40	ug/L	1
o - Xylenes		95-47-6	8260B	ND		0.50	0.40	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits						
1,2-Dichloroethane-d4		107	70-130						
Bromofluorobenzene		98	70-130						
Toluene-d8		108	70-130						

PQL = Precision quantitation limit E = Detected in the method blank E = Quantitation of compound measured the calibration (30%) H = Unit of holding time
 MDL = Limit of detection, 3 times the MDL J = E: (measured result - PQL) / MDL F = The FFD between two adjacent columns (less than 40%) U = Error of x (1 unit of column)
 Note: Sample 300 mL soil sample (no reported on dry weight basis) and it flagged with a "J"

Volatile Organic Compounds by GC/MS

Client: Tetra Tech EM Inc.	Laboratory ID: RJ20010-014
Description: TRIP BLANK	Matrix: Aqueous
Date Sampled: 10/18/2016	
Date Received: 10/20/2016	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260B	1	10/21/2016	1103	TML	24888		
Parameter		CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone		67-64-1	8260B	ND		10	2.0	ug/L	1
Benzene		71-43-2	8260B	ND		0.50	0.40	ug/L	1
Bromochloromethane		74-97-5	8260B	ND		0.50	0.40	ug/L	1
Bromodichloromethane		75-27-4	8260B	ND		0.50	0.40	ug/L	1
Bromoform		75-25-2	8260B	ND		0.50	0.40	ug/L	1
Bromomethane (Methyl bromide)		74-83-9	8260B	ND		0.50	0.40	ug/L	1
2-Butanone (MEK)		78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide		75-15-0	8260B	ND		0.50	0.40	ug/L	1
Carbon tetrachloride		56-23-5	8260B	ND		0.50	0.40	ug/L	1
Chlorobenzene		108-90-7	8260B	ND		0.50	0.40	ug/L	1
Chloroethane		75-00-3	8260B	ND		0.50	0.40	ug/L	1
Chloroform		67-66-3	8260B	ND		0.50	0.40	ug/L	1
Chloromethane (Methyl chloride)		74-87-3	8260B	ND		0.50	0.40	ug/L	1
Cyclohexane		110-82-7	8260B	ND		0.50	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)		96-12-8	8260B	ND		0.50	0.40	ug/L	1
Dibromochloromethane		124-48-1	8260B	ND		0.50	0.40	ug/L	1
1,2-Dibromoethane (EDB)		106-93-4	8260B	ND		0.50	0.40	ug/L	1
1,2-Dichlorobenzene		95-50-1	8260B	ND		0.50	0.40	ug/L	1
1,3-Dichlorobenzene		541-73-1	8260B	ND		0.50	0.40	ug/L	1
1,4-Dichlorobenzene		106-46-7	8260B	ND		0.50	0.40	ug/L	1
Dichlorodifluoromethane		75-71-8	8260B	ND		0.50	0.40	ug/L	1
1,1-Dichloroethane		75-34-3	8260B	ND		0.50	0.40	ug/L	1
1,2-Dichloroethane		107-06-2	8260B	ND		0.50	0.40	ug/L	1
1,1-Dichloroethene		75-35-4	8260B	ND		0.50	0.40	ug/L	1
cis-1,2-Dichloroethene		156-59-2	8260B	ND		0.50	0.40	ug/L	1
trans-1,2-Dichloroethene		156-60-5	8260B	ND		0.50	0.40	ug/L	1
1,2-Dichloropropane		78-87-5	8260B	ND		0.50	0.40	ug/L	1
cis-1,3-Dichloropropene		10061-01-5	8260B	ND		0.50	0.40	ug/L	1
trans-1,3-Dichloropropene		10061-02-6	8260B	ND		0.50	0.40	ug/L	1
1,4-Dioxane		123-91-1	8260B	ND		20	13	ug/L	1
Ethylbenzene		100-41-4	8260B	ND		0.50	0.40	ug/L	1
2-Hexanone		591-78-6	8260B	ND		10	2.0	ug/L	1
Isopropylbenzene		98-82-8	8260B	ND		0.50	0.40	ug/L	1
Methyl acetate		79-20-9	8260B	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)		1634-04-4	8260B	ND		0.50	0.40	ug/L	1
4-Methyl-2-pentanone		108-10-1	8260B	ND		10	2.0	ug/L	1
Methylcyclohexane		108-87-2	8260B	ND		5.0	0.40	ug/L	1
Methylene chloride		75-09-2	8260B	ND		0.50	0.40	ug/L	1
Styrene		100-42-5	8260B	ND		0.50	0.40	ug/L	1
1,1,2,2-Tetrachloroethane		79-34-5	8260B	ND		0.50	0.40	ug/L	1
Tetrachloroethene		127-18-4	8260B	ND		0.50	0.40	ug/L	1
Toluene		108-88-3	8260B	ND		0.50	0.40	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane		76-13-1	8260B	ND		0.50	0.40	ug/L	1
1,2,3-Trichlorobenzene		87-61-6	8260B	ND		0.50	0.40	ug/L	1

FQL = False Quantitation Limit

E = Detected in the method blank

E = Quantitated compound measured the detection limits

H = High holding time

ND = Not detected below the MDL

J = Interpolated result FQL and MDL

F = The FID between two columns exceed 40%

II = Error code out of control

Other: 300 = All four samples are reported on a dry weight basis and flagged with a "J"

Volatile Organic Compounds by GC/MS

Client: Tetra Tech EM Inc.	Laboratory ID: RJ20010-014
Description: TRIP BLANK	Matrix: Aqueous
Date Sampled: 10/18/2016	
Date Received: 10/20/2016	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260B	1	10/21/2016	1103 TML		24888		
Parameter		CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2,4-Trichlorobenzene		120-82-1	8260B	ND		0.50	0.40	ug/L	1
1,1,1-Trichloroethane		71-55-6	8260B	ND		0.50	0.40	ug/L	1
1,1,2-Trichloroethane		79-00-5	8260B	ND		0.50	0.40	ug/L	1
Trichloroethene		79-01-6	8260B	ND		0.50	0.40	ug/L	1
Trichlorofluoromethane		75-69-4	8260B	ND		0.50	0.40	ug/L	1
Vinyl chloride		75-01-4	8260B	ND		0.50	0.40	ug/L	1
m+p - Xylenes		179601-23-1	8260B	ND		0.50	0.40	ug/L	1
o - Xylenes		95-47-6	8260B	ND		0.50	0.40	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits						
1,2-Dichloroethane-d4		97	70-130						
Bromofluorobenzene		94	70-130						
Toluene-d8		103	70-130						

PQL = Precision quantitation limit E = Detected in the method blank E = Quantitation of compound measured the calibration (30%) H = Unit of holding time
 MDL = Limit of detection, 3 times the MDL J = E: (measured result - PQL) / MDL F = The FFD between two adjacent columns (less than 40%) U = Factor used to calculate the
 detection limit for each sample (calculated from the weight basis and is flagged with a "U")

QC Summary

Volatile Organic Compounds by GC/MS - MB

Sample ID: RQ24888-001

Batch: 24888

Analytical Method: 8260B

Matrix: Aqueous

Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Acetone	ND		1	10	2.0	ug/L	10/21/2016 1028
Benzene	ND		1	0.50	0.40	ug/L	10/21/2016 1028
Bromochloromethane	ND		1	0.50	0.40	ug/L	10/21/2016 1028
Bromodichloromethane	ND		1	0.50	0.40	ug/L	10/21/2016 1028
Bromoform	ND		1	0.50	0.40	ug/L	10/21/2016 1028
Bromomethane (Methyl bromide)	ND		1	0.50	0.40	ug/L	10/21/2016 1028
2-Butanone (MEK)	ND		1	10	2.0	ug/L	10/21/2016 1028
Carbon disulfide	ND		1	0.50	0.40	ug/L	10/21/2016 1028
Carbon tetrachloride	ND		1	0.50	0.40	ug/L	10/21/2016 1028
Chlorobenzene	ND		1	0.50	0.40	ug/L	10/21/2016 1028
Chloroethane	ND		1	0.50	0.40	ug/L	10/21/2016 1028
Chloroform	ND		1	0.50	0.40	ug/L	10/21/2016 1028
Chloromethane (Methyl chloride)	ND		1	0.50	0.40	ug/L	10/21/2016 1028
Cyclohexane	ND		1	0.50	0.40	ug/L	10/21/2016 1028
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	0.50	0.40	ug/L	10/21/2016 1028
Dibromochloromethane	ND		1	0.50	0.40	ug/L	10/21/2016 1028
1,2-Dibromoethane (EDB)	ND		1	0.50	0.40	ug/L	10/21/2016 1028
1,4-Dichlorobenzene	ND		1	0.50	0.40	ug/L	10/21/2016 1028
1,3-Dichlorobenzene	ND		1	0.50	0.40	ug/L	10/21/2016 1028
1,2-Dichlorobenzene	ND		1	0.50	0.40	ug/L	10/21/2016 1028
Dichlorodifluoromethane	ND		1	0.50	0.40	ug/L	10/21/2016 1028
1,2-Dichloroethane	ND		1	0.50	0.40	ug/L	10/21/2016 1028
1,1-Dichloroethane	ND		1	0.50	0.40	ug/L	10/21/2016 1028
trans-1,2-Dichloroethene	ND		1	0.50	0.40	ug/L	10/21/2016 1028
cis-1,2-Dichloroethene	ND		1	0.50	0.40	ug/L	10/21/2016 1028
1,1-Dichloroethene	ND		1	0.50	0.40	ug/L	10/21/2016 1028
1,2-Dichloropropane	ND		1	0.50	0.40	ug/L	10/21/2016 1028
trans-1,3-Dichloropropene	ND		1	0.50	0.40	ug/L	10/21/2016 1028
cis-1,3-Dichloropropene	ND		1	0.50	0.40	ug/L	10/21/2016 1028
1,4-Dioxane	ND		1	20	13	ug/L	10/21/2016 1028
Ethylbenzene	ND		1	0.50	0.40	ug/L	10/21/2016 1028
2-Hexanone	ND		1	10	2.0	ug/L	10/21/2016 1028
Isopropylbenzene	ND		1	0.50	0.40	ug/L	10/21/2016 1028
Methyl acetate	ND		1	1.0	0.40	ug/L	10/21/2016 1028
Methyl tertiary butyl ether (MTBE)	ND		1	0.50	0.40	ug/L	10/21/2016 1028
4-Methyl-2-pentanone	ND		1	10	2.0	ug/L	10/21/2016 1028
Methylcyclohexane	ND		1	5.0	0.40	ug/L	10/21/2016 1028
Methylene chloride	ND		1	0.50	0.40	ug/L	10/21/2016 1028
Styrene	ND		1	0.50	0.40	ug/L	10/21/2016 1028
1,1,2,2-Tetrachloroethane	ND		1	0.50	0.40	ug/L	10/21/2016 1028
Tetrachloroethene	ND		1	0.50	0.40	ug/L	10/21/2016 1028
Toluene	ND		1	0.50	0.40	ug/L	10/21/2016 1028
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	0.50	0.40	ug/L	10/21/2016 1028
1,2,4-Trichlorobenzene	ND		1	0.50	0.40	ug/L	10/21/2016 1028

PQL = Practical quantitation limit

F = The FFC between two GC columns: <math>\approx 40\%

D = Recovery of dilution

ND = Not detected at or above the MDL

J = Estimated result = PQL and <math>\geq 10\%

+ = FFD <math>\geq 10\%

Where applicable, all calculated analyte concentrations are reported on a dry weight basis unless flagged with a "%".

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: RQ24888-001

Matrix: Aqueous

Batch: 24888

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
1,2,3-Trichlorobenzene	ND		1	0.50	0.40	ug/L	10/21/2016 1028
1,1,2-Trichloroethane	ND		1	0.50	0.40	ug/L	10/21/2016 1028
1,1,1-Trichloroethane	ND		1	0.50	0.40	ug/L	10/21/2016 1028
Trichloroethene	ND		1	0.50	0.40	ug/L	10/21/2016 1028
Trichlorofluoromethane	ND		1	0.50	0.40	ug/L	10/21/2016 1028
Vinyl chloride	ND		1	0.50	0.40	ug/L	10/21/2016 1028
o - Xylenes	ND		1	0.50	0.40	ug/L	10/21/2016 1028
m+p - Xylenes	ND		1	0.50	0.40	ug/L	10/21/2016 1028
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene	94		70-130				
1,2-Dichloroethane-d4	99		70-130				
Toluene-d8	103		70-130				

PQL = Practical quantitation limit

F = The FFC between two GC columns is equal to 400%

D = F x Q / (1 + F)

ND = Not detected at or below the MDL

J = Estimated result = PQL and < MDL

+ = PQL > MDL > 0

Where applicable, all volatiles analyzed are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: RQ24888-002

Batch: 24888

Analytical Method: 8260B

Matrix: Aqueous

Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	DIL	% Rec	% Rec Limit	Analysis Date
Acetone	100	110		1	110	60-140	10/21/2016 0931
Benzene	50	49		1	99	70-130	10/21/2016 0931
Bromochloromethane	50	50		1	100	70-130	10/21/2016 0931
Bromodichloromethane	50	51		1	101	70-130	10/21/2016 0931
Bromoform	50	43		1	86	70-130	10/21/2016 0931
Bromomethane (Methyl bromide)	50	52		1	104	60-140	10/21/2016 0931
2-Butanone (MEK)	100	110		1	108	60-140	10/21/2016 0931
Carbon disulfide	50	55		1	110	60-140	10/21/2016 0931
Carbon tetrachloride	50	54		1	108	70-130	10/21/2016 0931
Chlorobenzene	50	50		1	99	70-130	10/21/2016 0931
Chloroethane	50	54		1	107	60-140	10/21/2016 0931
Chloroform	50	49		1	98	70-130	10/21/2016 0931
Chloromethane (Methyl chloride)	50	51		1	102	50-130	10/21/2016 0931
Cyclohexane	50	59		1	118	70-130	10/21/2016 0931
1,2-Dibromo-3-chloropropane (DBCP)	50	41		1	81	70-130	10/21/2016 0931
Dibromochloromethane	50	48		1	97	70-130	10/21/2016 0931
1,2-Dibromoethane (EDB)	50	49		1	99	70-130	10/21/2016 0931
1,4-Dichlorobenzene	50	48		1	96	70-130	10/21/2016 0931
1,3-Dichlorobenzene	50	50		1	100	70-130	10/21/2016 0931
1,2-Dichlorobenzene	50	49		1	98	70-130	10/21/2016 0931
Dichlorodifluoromethane	50	59		1	119	60-140	10/21/2016 0931
1,2-Dichloroethane	50	50		1	99	70-130	10/21/2016 0931
1,1-Dichloroethane	50	49		1	99	70-130	10/21/2016 0931
trans-1,2-Dichloroethene	50	53		1	106	70-130	10/21/2016 0931
cis-1,2-Dichloroethene	50	51		1	103	70-130	10/21/2016 0931
1,1-Dichloroethene	50	54		1	108	70-130	10/21/2016 0931
1,2-Dichloropropane	50	53		1	105	70-130	10/21/2016 0931
trans-1,3-Dichloropropene	50	52		1	104	70-130	10/21/2016 0931
cis-1,3-Dichloropropene	50	52		1	103	70-130	10/21/2016 0931
1,4-Dioxane	500	550		1	110	43-173	10/21/2016 0931
Ethylbenzene	50	50		1	99	70-130	10/21/2016 0931
2-Hexanone	100	110		1	111	60-140	10/21/2016 0931
Isopropylbenzene	50	53		1	106	70-130	10/21/2016 0931
Methyl acetate	50	59		1	118	60-140	10/21/2016 0931
Methyl tertiary butyl ether (MTBE)	50	49		1	98	70-130	10/21/2016 0931
4-Methyl-2-pentanone	100	110		1	113	60-140	10/21/2016 0931
Methylcyclohexane	50	54		1	107	70-130	10/21/2016 0931
Methylene chloride	50	49		1	98	70-130	10/21/2016 0931
Styrene	50	55		1	109	70-130	10/21/2016 0931
1,1,2,2-Tetrachloroethane	50	50		1	101	70-130	10/21/2016 0931
Tetrachloroethene	50	51		1	102	70-130	10/21/2016 0931
Toluene	50	50		1	100	70-130	10/21/2016 0931
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	54		1	108	70-130	10/21/2016 0931
1,2,4-Trichlorobenzene	50	52		1	104	70-130	10/21/2016 0931

FQL = Fiducial quantitation limit

F = The FID detection limit (0.001% column efficiency) = 40 ppb

D = Recovery (100%)

DLO = Detected at or above the MQL

J = Estimated result - FQL and < MQL

+ = FQL > result > MQL

Where applicable, all calculated analyte concentrations are reported on a dry weight basis unless flagged with a "P"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: RQ24888-002

Matrix: Aqueous

Batch: 24888

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	DIL	% Rec	% Rec Limit	Analysis Date
1,2,3-Trichlorobenzene	50	50		1	99	70-130	10/21/2016 0931
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		101	70-130				
1,2-Dichloroethane-d4		94	70-130				
Toluene-d8		105	70-130				

FQL = F检出限(quantitation limit)

F = The FFC between two GC columns is set at 40%

DIL = Dilution factor

DIL = Diluted limit of detection + the FQL

J = Estimated result - FQL and \geq MEL

+ = FFD + (out of tolerance)

Where applicable, all volatile organic compounds are reported on a dry weight basis unless flagged with a "W".

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MS

Sample ID: RJ20010-004MS

Batch: 24888

Analytical Method: 8260B

Matrix: Aqueous

Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Acetone	ND	100	130	1	131	60-140	10/21/2016 1842	
Benzene	ND	50	54	1	108	70-130	10/21/2016 1842	
Bromochloromethane	ND	50	54	1	108	70-130	10/21/2016 1842	
Bromodichloromethane	ND	50	54	1	108	70-130	10/21/2016 1842	
Bromoform	ND	50	44	1	87	70-130	10/21/2016 1842	
Bromomethane (Methyl bromide)	ND	50	55	1	109	60-140	10/21/2016 1842	
2-Butanone (MEK)	ND	100	120	1	122	60-140	10/21/2016 1842	
Carbon disulfide	ND	50	57	1	114	60-140	10/21/2016 1842	
Carbon tetrachloride	ND	50	61	1	121	70-130	10/21/2016 1842	
Chlorobenzene	ND	50	54	1	108	70-130	10/21/2016 1842	
Chloroethane	ND	50	57	1	114	60-140	10/21/2016 1842	
Chloroform	ND	50	54	1	108	70-130	10/21/2016 1842	
Chloromethane (Methyl chloride)	ND	50	54	1	109	20-158	10/21/2016 1842	
Cyclohexane	ND	50	64	1	129	70-130	10/21/2016 1842	
1,2-Dibromo-3-chloropropane (DBCP)	ND	50	45	1	91	70-130	10/21/2016 1842	
Dibromochloromethane	ND	50	50	1	99	70-130	10/21/2016 1842	
1,2-Dibromoethane (EDB)	ND	50	52	1	105	70-130	10/21/2016 1842	
1,2-Dichlorobenzene	ND	50	54	1	108	70-130	10/21/2016 1842	
1,3-Dichlorobenzene	ND	50	54	1	107	70-130	10/21/2016 1842	
1,4-Dichlorobenzene	ND	50	52	1	105	70-130	10/21/2016 1842	
Dichlorodifluoromethane	ND	50	66	1	132	60-140	10/21/2016 1842	
1,1-Dichloroethane	ND	50	55	1	110	70-130	10/21/2016 1842	
1,2-Dichloroethane	ND	50	54	1	107	70-130	10/21/2016 1842	
1,1-Dichloroethene	1.4	50	63	1	123	70-130	10/21/2016 1842	
cis-1,2-Dichloroethene	0.43	50	58	1	115	70-130	10/21/2016 1842	
trans-1,2-Dichloroethene	ND	50	60	1	120	70-130	10/21/2016 1842	
1,2-Dichloropropane	ND	50	57	1	114	70-130	10/21/2016 1842	
cis-1,3-Dichloropropene	ND	50	53	1	106	70-130	10/21/2016 1842	
trans-1,3-Dichloropropene	ND	50	52	1	103	70-130	10/21/2016 1842	
1,4-Dioxane	ND	500	580	1	115	43-173	10/21/2016 1842	
Ethylbenzene	ND	50	55	1	111	70-130	10/21/2016 1842	
2-Hexanone	ND	100	120	1	116	60-140	10/21/2016 1842	
Isopropylbenzene	ND	50	59	1	119	70-130	10/21/2016 1842	
Methyl acetate	ND	50	52	1	105	15-128	10/21/2016 1842	
Methyl tertiary butyl ether (MTBE)	0.80	50	55	1	109	70-130	10/21/2016 1842	
4-Methyl-2-pentanone	ND	100	120	1	120	60-140	10/21/2016 1842	
Methylcyclohexane	ND	50	61	1	121	70-130	10/21/2016 1842	
Methylene chloride	ND	50	53	1	106	70-130	10/21/2016 1842	
Styrene	ND	50	58	1	116	70-130	10/21/2016 1842	
1,1,2,2-Tetrachloroethane	ND	50	55	1	109	70-130	10/21/2016 1842	
Tetrachloroethene	24	50	88	1	128	70-130	10/21/2016 1842	
Toluene	ND	50	55	1	110	70-130	10/21/2016 1842	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	50	60	1	119	70-130	10/21/2016 1842	
1,2,3-Trichlorobenzene	ND	50	55	1	110	70-130	10/21/2016 1842	

FQL = Fiducial quantitation limit

F = The FID between two GC columns: <math>\approx 40\mu\text{g}

D = Recalculated dilution

ND = Not detected at or above the MQL

J = Estimated result - FQL and > MQL

+ = FID > dilution limit

Note: Applicable dilution factors are reported on a dry weight basis unless flagged with a "%".

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MS

Sample ID: RJ20010-004MS

Matrix: Aqueous

Batch: 24888

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,2,4-Trichlorobenzene	ND	50	57	1		115	70-130	10/21/2016 1842
Surrogate	Q	% Rec	Acceptance Limit					
1,2-Dichloroethane-d4		97	70-130					
Bromofluorobenzene		102	70-130					
Toluene-d8		105	70-130					

FQL = F检出限/ quantitation limit

F = The FFC between two GC columns is less than 40%

D = F检出限/ dilution limit

ND = Not detected at or above the MDL

J = Estimated result - FQL and > MDL

+ = FQL < result < MDL

Where applicable, all volatile organic compounds reported on a dry weight basis were flagged with a "J".

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MSD

Sample ID: RJ20010-004MD

Batch: 24888

Analytical Method: 8260B

Matrix: Aqueous

Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Acetone	ND	100	140	1	136	3.5	60-140	20	10/21/2016 1905	
Benzene	ND	50	57	1	113	4.7	70-130	20	10/21/2016 1905	
Bromochloromethane	ND	50	56	1	113	3.8	70-130	20	10/21/2016 1905	
Bromodichloromethane	ND	50	57	1	114	4.8	70-130	20	10/21/2016 1905	
Bromoform	ND	50	46	1	92	5.1	70-130	20	10/21/2016 1905	
Bromomethane (Methyl bromide)	ND	50	55	1	110	0.60	60-140	20	10/21/2016 1905	
2-Butanone (MEK)	ND	100	120	1	124	2.0	60-140	20	10/21/2016 1905	
Carbon disulfide	ND	50	56	1	113	1.2	60-140	20	10/21/2016 1905	
Carbon tetrachloride	ND	50	62	1	124	1.9	70-130	20	10/21/2016 1905	
Chlorobenzene	ND	50	57	1	113	4.9	70-130	20	10/21/2016 1905	
Chloroethane	ND	50	58	1	115	1.5	60-140	20	10/21/2016 1905	
Chloroform	ND	50	54	1	109	0.71	70-130	20	10/21/2016 1905	
Chloromethane (Methyl chloride)	ND	50	55	1	110	1.5	20-158	20	10/21/2016 1905	
Cyclohexane	ND	50	65	1	130	1.4	70-130	20	10/21/2016 1905	
1,2-Dibromo-3-chloropropane (DBCP)	ND	50	46	1	92	1.8	70-130	20	10/21/2016 1905	
Dibromochloromethane	ND	50	53	1	106	6.2	70-130	20	10/21/2016 1905	
1,2-Dibromoethane (EDB)	ND	50	56	1	112	6.7	70-130	20	10/21/2016 1905	
1,2-Dichlorobenzene	ND	50	55	1	110	1.1	70-130	20	10/21/2016 1905	
1,3-Dichlorobenzene	ND	50	56	1	112	4.1	70-130	20	10/21/2016 1905	
1,4-Dichlorobenzene	ND	50	54	1	108	2.8	70-130	20	10/21/2016 1905	
Dichlorodifluoromethane	ND	50	67	1	133	1.3	60-140	20	10/21/2016 1905	
1,1-Dichloroethane	ND	50	57	1	113	2.7	70-130	20	10/21/2016 1905	
1,2-Dichloroethane	ND	50	55	1	110	2.9	70-130	20	10/21/2016 1905	
1,1-Dichloroethene	1.4	50	65	1	127	3.0	70-130	20	10/21/2016 1905	
cis-1,2-Dichloroethene	0.43	50	59	1	116	1.4	70-130	20	10/21/2016 1905	
trans-1,2-Dichloroethene	ND	50	61	1	122	1.1	70-130	20	10/21/2016 1905	
1,2-Dichloropropane	ND	50	59	1	118	3.0	70-130	20	10/21/2016 1905	
cis-1,3-Dichloropropene	ND	50	55	1	110	3.6	70-130	20	10/21/2016 1905	
trans-1,3-Dichloropropene	ND	50	54	1	109	5.1	70-130	20	10/21/2016 1905	
1,4-Dioxane	ND	500	570	1	115	0.59	43-173	20	10/21/2016 1905	
Ethylbenzene	ND	50	57	1	115	3.4	70-130	20	10/21/2016 1905	
2-Hexanone	ND	100	120	1	119	2.5	60-140	20	10/21/2016 1905	
Isopropylbenzene	ND	50	62	1	123	3.7	70-130	20	10/21/2016 1905	
Methyl acetate	ND	50	50	1	100	5.1	15-128	20	10/21/2016 1905	
Methyl tertiary butyl ether (MTBE)	0.80	50	57	1	112	2.2	70-130	20	10/21/2016 1905	
4-Methyl-2-pentanone	ND	100	120	1	124	2.9	60-140	20	10/21/2016 1905	
Methylcyclohexane	ND	50	62	1	125	2.6	70-130	20	10/21/2016 1905	
Methylene chloride	ND	50	54	1	108	1.8	70-130	20	10/21/2016 1905	
Styrene	ND	50	60	1	120	3.1	70-130	20	10/21/2016 1905	
1,1,2,2-Tetrachloroethane	ND	50	57	1	114	4.7	70-130	20	10/21/2016 1905	
Tetrachloroethene	24	50	92	N	1	137	5.0	70-130	20	10/21/2016 1905
Toluene	ND	50	58	1	115	4.6	70-130	20	10/21/2016 1905	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	50	60	1	121	1.4	70-130	20	10/21/2016 1905	
1,2,3-Trichlorobenzene	ND	50	57	1	113	2.6	70-130	20	10/21/2016 1905	

FQL = Fiducial quantitation limit

F = The FID between two GC columns = <= 40%

LL = Fiducial limit = QL + 3SD

ND = Not detected at or above the MQL

DL = Estimated result = FQL and > MQL

+ = FID > output limit

Note: Applicable dilution factors are reported on 3 digit weight basis unless flagged with a "N"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MSD

Sample ID: RJ20010-004MD

Matrix: Aqueous

Batch: 24888

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
1,2,4-Trichlorobenzene	ND	50	58	1	117	1.6	70-130	20	20	10/21/2016 1905
1,1,1-Trichloroethane	ND	50	58	1	116	0.72	70-130	20	20	10/21/2016 1905
1,1,2-Trichloroethane	ND	50	57	1	115	3.6	70-130	20	20	10/21/2016 1905
Trichloroethene	9.6	50	71	1	123	3.5	70-130	20	20	10/21/2016 1905
Trichlorofluoromethane	ND	50	65	1	130	5.6	60-140	20	20	10/21/2016 1905
Vinyl chloride	ND	50	61	1	122	1.5	60-140	20	20	10/21/2016 1905
m+p - Xylenes	ND	50	60	1	119	4.3	70-130	20	20	10/21/2016 1905
o - Xylenes	ND	50	60	1	120	4.0	70-130	20	20	10/21/2016 1905
Surrogate	Q	% Rec	Acceptance Limit							
1,2-Dichloroethane-d4		94	70-130							
Bromofluorobenzene		99	70-130							
Toluene-d8		104	70-130							

FQL = Focal limit quantitation limit

F = The FFC between two GC columns is set at 40%

DL = Detection limit = FQL * 100

ND = Not detected at or below the MDL

J = Estimated result = FQL and < MDL

+ = FQL > MDL > 0

Where applicable, all volatile organic compounds reported on a dry weight basis were flagged with a "J".

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MS

Sample ID: RJ20010-005MS

Batch: 24888

Analytical Method: 8260B

Matrix: Aqueous

Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Acetone	2.3	100	130		1	130	60-140	10/21/2016 1756
Benzene	ND	50	55		1	110	70-130	10/21/2016 1756
Bromochloromethane	ND	50	57		1	115	70-130	10/21/2016 1756
Bromodichloromethane	ND	50	56		1	112	70-130	10/21/2016 1756
Bromoform	ND	50	45		1	90	70-130	10/21/2016 1756
Bromomethane (Methyl bromide)	ND	50	57		1	114	60-140	10/21/2016 1756
2-Butanone (MEK)	ND	100	120		1	122	60-140	10/21/2016 1756
Carbon disulfide	ND	50	58		1	116	60-140	10/21/2016 1756
Carbon tetrachloride	ND	50	62		1	124	70-130	10/21/2016 1756
Chlorobenzene	ND	50	55		1	111	70-130	10/21/2016 1756
Chloroethane	ND	50	59		1	118	60-140	10/21/2016 1756
Chloroform	ND	50	57		1	113	70-130	10/21/2016 1756
Chloromethane (Methyl chloride)	ND	50	57		1	115	20-158	10/21/2016 1756
Cyclohexane	ND	50	66	N	1	133	70-130	10/21/2016 1756
1,2-Dibromo-3-chloropropane (DBCP)	ND	50	46		1	92	70-130	10/21/2016 1756
Dibromochloromethane	ND	50	52		1	103	70-130	10/21/2016 1756
1,2-Dibromoethane (EDB)	ND	50	55		1	110	70-130	10/21/2016 1756
1,2-Dichlorobenzene	ND	50	55		1	110	70-130	10/21/2016 1756
1,3-Dichlorobenzene	ND	50	56		1	111	70-130	10/21/2016 1756
1,4-Dichlorobenzene	ND	50	53		1	107	70-130	10/21/2016 1756
Dichlorodifluoromethane	ND	50	67		1	134	60-140	10/21/2016 1756
1,1-Dichloroethane	ND	50	57		1	115	70-130	10/21/2016 1756
1,2-Dichloroethane	ND	50	55		1	111	70-130	10/21/2016 1756
1,1-Dichloroethene	2.2	50	65		1	125	70-130	10/21/2016 1756
cis-1,2-Dichloroethene	2.1	50	61		1	118	70-130	10/21/2016 1756
trans-1,2-Dichloroethene	ND	50	60		1	120	70-130	10/21/2016 1756
1,2-Dichloropropane	ND	50	58		1	116	70-130	10/21/2016 1756
cis-1,3-Dichloropropene	ND	50	55		1	109	70-130	10/21/2016 1756
trans-1,3-Dichloropropene	ND	50	54		1	108	70-130	10/21/2016 1756
1,4-Dioxane	69	500	650		1	115	43-173	10/21/2016 1756
Ethylbenzene	ND	50	55		1	110	70-130	10/21/2016 1756
2-Hexanone	ND	100	120		1	119	60-140	10/21/2016 1756
Isopropylbenzene	ND	50	59		1	118	70-130	10/21/2016 1756
Methyl acetate	ND	50	51		1	103	15-128	10/21/2016 1756
Methyl tertiary butyl ether (MTBE)	ND	50	56		1	112	70-130	10/21/2016 1756
4-Methyl-2-pentanone	ND	100	120		1	124	60-140	10/21/2016 1756
Methylcyclohexane	ND	50	59		1	118	70-130	10/21/2016 1756
Methylene chloride	ND	50	55		1	110	70-130	10/21/2016 1756
Styrene	ND	50	59		1	117	70-130	10/21/2016 1756
1,1,2,2-Tetrachloroethane	ND	50	56		1	112	70-130	10/21/2016 1756
Tetrachloroethene	4.5	50	62		1	114	70-130	10/21/2016 1756
Toluene	ND	50	57		1	113	70-130	10/21/2016 1756
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	50	60		1	120	70-130	10/21/2016 1756
1,2,3-Trichlorobenzene	ND	50	57		1	114	70-130	10/21/2016 1756

FQL = Fiducial quantitation limit

F = The FID between two GC columns = ¹4000

D = Fiducial dilution

ND = Not detected at or above the MQL

J = Estimated result = FQL and > MQL

+ = FID > output dilution

Where applicable, all total sample analysis are reported on a dry weight basis unless flagged with a "%"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MS

Sample ID: RJ20010-005MS

Batch: 24888

Analytical Method: 8260B

Matrix: Aqueous

Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,2,4-Trichlorobenzene	ND	50	58	1	116	70-130	10/21/2016 1756	
1,1,1-Trichloroethane	ND	50	59	1	119	70-130	10/21/2016 1756	
1,1,2-Trichloroethane	ND	50	56	1	113	70-130	10/21/2016 1756	
Trichloroethylene	2.3	50	57	1	110	70-130	10/21/2016 1756	
Trichlorofluoromethane	ND	50	63	1	127	60-140	10/21/2016 1756	
Vinyl chloride	ND	50	62	1	123	60-140	10/21/2016 1756	
m+p - Xylenes	ND	50	58	1	116	70-130	10/21/2016 1756	
o - Xylenes	ND	50	58	1	117	70-130	10/21/2016 1756	
Surrogate	Q	% Rec	Acceptance Limit					
1,2-Dichloroethane-d4		98	70-130					
Bromofluorobenzene		100	70-130					
Toluene-d8		108	70-130					

FQL = Filled quantitation limit

F = The FFC between two GC columns is less than 40%

D = Filled dilution

ND = Not detected at or above the MDL

J = Estimated result - FQL and > MDL

+ = FFD > MDL

Where applicable, all test sample analysis are reported on a dry weight basis unless flagged with a "J"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MSD

Sample ID: RJ20010-005MD

Batch: 24888

Analytical Method: 8260B

Matrix: Aqueous

Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Acetone	2.3	100	130	1	123	4.9	60-140	20	20	10/21/2016 1819
Benzene	ND	50	55	1	110	0.38	70-130	20	20	10/21/2016 1819
Bromochloromethane	ND	50	55	1	110	4.1	70-130	20	20	10/21/2016 1819
Bromodichloromethane	ND	50	56	1	112	0.10	70-130	20	20	10/21/2016 1819
Bromoform	ND	50	45	1	90	0.21	70-130	20	20	10/21/2016 1819
Bromomethane (Methyl bromide)	ND	50	55	1	110	3.6	60-140	20	20	10/21/2016 1819
2-Butanone (MEK)	ND	100	120	1	118	2.7	60-140	20	20	10/21/2016 1819
Carbon disulfide	ND	50	58	1	116	0.57	60-140	20	20	10/21/2016 1819
Carbon tetrachloride	ND	50	62	1	123	1.0	70-130	20	20	10/21/2016 1819
Chlorobenzene	ND	50	56	1	113	1.8	70-130	20	20	10/21/2016 1819
Chloroethane	ND	50	57	1	115	2.6	60-140	20	20	10/21/2016 1819
Chloroform	ND	50	55	1	110	3.3	70-130	20	20	10/21/2016 1819
Chloromethane (Methyl chloride)	ND	50	56	1	111	3.0	20-158	20	20	10/21/2016 1819
Cyclohexane	ND	50	66	N	1	133	0.33	70-130	20	10/21/2016 1819
1,2-Dibromo-3-chloropropane (DBCP)	ND	50	48	1	95	2.7	70-130	20	20	10/21/2016 1819
Dibromochloromethane	ND	50	52	1	104	0.98	70-130	20	20	10/21/2016 1819
1,2-Dibromoethane (EDB)	ND	50	55	1	110	0.027	70-130	20	20	10/21/2016 1819
1,2-Dichlorobenzene	ND	50	55	1	109	0.60	70-130	20	20	10/21/2016 1819
1,3-Dichlorobenzene	ND	50	56	1	112	0.33	70-130	20	20	10/21/2016 1819
1,4-Dichlorobenzene	ND	50	54	1	108	1.2	70-130	20	20	10/21/2016 1819
Dichlorodifluoromethane	ND	50	67	1	133	0.30	60-140	20	20	10/21/2016 1819
1,1-Dichloroethane	ND	50	56	1	112	2.8	70-130	20	20	10/21/2016 1819
1,2-Dichloroethane	ND	50	54	1	109	2.1	70-130	20	20	10/21/2016 1819
1,1-Dichloroethene	2.2	50	64	1	123	1.6	70-130	20	20	10/21/2016 1819
cis-1,2-Dichloroethene	2.1	50	60	1	116	1.9	70-130	20	20	10/21/2016 1819
trans-1,2-Dichloroethene	ND	50	60	1	120	0.20	70-130	20	20	10/21/2016 1819
1,2-Dichloropropane	ND	50	58	1	116	0.42	70-130	20	20	10/21/2016 1819
cis-1,3-Dichloropropene	ND	50	54	1	109	0.033	70-130	20	20	10/21/2016 1819
trans-1,3-Dichloropropene	ND	50	54	1	108	0.078	70-130	20	20	10/21/2016 1819
1,4-Dioxane	69	500	640	1	114	1.4	43-173	20	20	10/21/2016 1819
Ethylbenzene	ND	50	56	1	113	2.1	70-130	20	20	10/21/2016 1819
2-Hexanone	ND	100	120	1	124	4.3	60-140	20	20	10/21/2016 1819
Isopropylbenzene	ND	50	61	1	121	2.4	70-130	20	20	10/21/2016 1819
Methyl acetate	ND	50	51	1	102	0.85	15-128	20	20	10/21/2016 1819
Methyl tertiary butyl ether (MTBE)	ND	50	54	1	108	3.3	70-130	20	20	10/21/2016 1819
4-Methyl-2-pentanone	ND	100	120	1	124	0.69	60-140	20	20	10/21/2016 1819
Methylcyclohexane	ND	50	62	1	125	5.9	70-130	20	20	10/21/2016 1819
Methylene chloride	ND	50	54	1	108	1.5	70-130	20	20	10/21/2016 1819
Styrene	ND	50	60	1	119	1.9	70-130	20	20	10/21/2016 1819
1,1,2,2-Tetrachloroethane	ND	50	57	1	113	1.3	70-130	20	20	10/21/2016 1819
Tetrachloroethene	4.5	50	63	1	117	2.1	70-130	20	20	10/21/2016 1819
Toluene	ND	50	57	1	114	0.43	70-130	20	20	10/21/2016 1819
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	50	61	1	122	1.5	70-130	20	20	10/21/2016 1819
1,2,3-Trichlorobenzene	ND	50	56	1	112	1.5	70-130	20	20	10/21/2016 1819

FQL = Fiducial quantitation limit

F = The FID between two GC columns = < 40%

LL = Lower limit of detection

ND = Not detected at or above the MQL

L = Estimated result = FQL and > MQL

+ = FQL < result < MQL

Note: Applicable dilution factors are reported on a dry weight basis unless flagged with a “%”.

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MSD

Sample ID: RJ20010-005MD

Matrix: Aqueous

Batch: 24888

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
1,2,4-Trichlorobenzene	ND	50	57	1	115	0.76	70-130	20	20	10/21/2016 1819
1,1,1-Trichloroethane	ND	50	57	1	115	3.4	70-130	20	20	10/21/2016 1819
1,1,2-Trichloroethane	ND	50	57	1	114	0.79	70-130	20	20	10/21/2016 1819
Trichloroethylene	2.3	50	58	1	111	1.3	70-130	20	20	10/21/2016 1819
Trichlorofluoromethane	ND	50	65	1	131	2.8	60-140	20	20	10/21/2016 1819
Vinyl chloride	ND	50	61	1	122	1.1	60-140	20	20	10/21/2016 1819
m+p - Xylenes	ND	50	59	1	118	2.0	70-130	20	20	10/21/2016 1819
o - Xylenes	ND	50	58	1	117	0.19	70-130	20	20	10/21/2016 1819
Surrogate	Q	% Rec	Acceptance Limit							
1,2-Dichloroethane-d4		95	70-130							
Bromofluorobenzene		100	70-130							
Toluene-d8		105	70-130							

FQL = Focal limit quantitation limit

F = The FFC between two GC columns is set at 40%

L = Focal limit dilution

ND = Not detected at or above the MDL

J = Estimated result - FQL and > MDL

+ = FFD (> MDL) - 0.03

Where applicable, all vol sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

**Chain of Custody
and
Miscellaneous Documents**



Chain of Custody Record

SHEALY ENVIRONMENTAL SERVICES, INC.
106 Vantage Point Drive • West Columbia, SC 29172
Telephone No. 803-791-9700 Fax No. 803-791-9111
www.shealylab.com

Number 65580

SHEALY ENVIRONMENTAL SERVICES, INC.

Client <i>Tetra Tech</i>		Report to Contact <i>Jessica Vickers</i>		Telephone No. / E-mail <i>jessica.vickers@federated.com</i>		Owner No.
Address <i>1955 Evergreen Blvd</i>		Sampler's Signature <i>[Signature]</i>		Analysis (Attach list if more space is needed)		Page <i>1 of 2</i>
City <i>Duluth</i>	State <i>GA</i>	Zip Code <i>30096</i>	Printed Name <i>John Snyder</i>			
Project Name <i>Dulhous Street Solvent</i>						
Project No. <i>103X902702025</i>		P.O. No. <i>02-025</i>	Date <i>10/18</i>	Time <i>1045</i>	Matrix <i>Water</i>	No. of Containers by Preservation Type
					<i>425M</i>	<i>1</i>
					<i>425H</i>	<i>1</i>
					<i>H2O</i>	<i>1</i>
					<i>UV 500</i>	<i>1</i>
					<i>UV 500C</i>	<i>1</i>
					<i>UV 500D</i>	<i>1</i>
					<i>UV 500E</i>	<i>1</i>
					<i>UV 500F</i>	<i>1</i>
					<i>UV 500G</i>	<i>1</i>
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					<i>UV 500J</i>	<i>1</i>
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					<i>UV 500L</i>	<i>1</i>
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					<i>UV 500U</i>	<i>1</i>
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Chain of Custody Record

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106 Vantage Point Drive • West Columbia, SC 29172
Telephone No. 803-791-9700 Fax No. 803-791-9111
www.shealylab.com

Number 65581

Turn Around Time Required (Prior lab approval required for expedited TAT.)		Sample Disposal		Possible Hazard Identification				QC Requirements (Specify)	
<input type="checkbox"/> Standard	<input type="checkbox"/> Rush (Specify)	<input type="checkbox"/> Return to Client	<input checked="" type="checkbox"/> Disposal by Lab	<input type="checkbox"/> Non-Hazard	<input type="checkbox"/> Flammable	<input type="checkbox"/> Skin Irritant	<input type="checkbox"/> Poison	<input type="checkbox"/> Unknown	
1. Relinquished by <i>John Smyth</i>	Date 10/19	Time 1400	1. Received by				Date	Time	
2. Relinquished by	Date	Time	2. Received by				Date	Time	
3. Relinquished by	Date	Time	3. Received by				Date	Time	
4. Relinquished by <i>FedEx</i>	Date 10/20/16	Time 0945	4. Laboratory received by <i>B. Elliott</i>				Date <i>Whitby</i>	Time 0945	
Note: All samples are retained for four weeks from receipt unless other arrangements are made.				LAS USE ONLY		Received on Ice (Circle) <input checked="" type="radio"/> Yes <input type="radio"/> No	Ice Pack	Receipt Temp. 41.8	°C

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s); PINK-Field Client Copy

Document Number: F-AD-133 Effective Date: 08-11-2014

SHEALY ENVIRONMENTAL SERVICES, INC.

Shealy Environmental Services, Inc.
Document Number: MEC018C-05

Page 1 of 1
Effective Date: 09/26/2016
Expiry Date: 09/28/2021

Sample Receipt Checklist (SRC)

Client: Tefra Tech Cooler Inspected by/date: SCS / 10/26/16 Lot #: RJ20010

Means of receipt: <input checked="" type="checkbox"/> SESI <input type="checkbox"/> Client <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Other			
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA <input type="checkbox"/>	1. Were custody seals present on the cooler?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA <input type="checkbox"/>	2. If custody seals were present, were they intact and unbroken?
pH strip ID: _____ CI strip ID: _____			
Cooler ID/Original temperature upon receipt/Derived (corrected) temperature upon receipt: <u>14.0/14.5 °C</u> / <u>14.0 °C</u> / <u>14.0 °C</u> / <u>14.0 °C</u>			
Method: <input checked="" type="checkbox"/> Temperature Blank <input type="checkbox"/> Against Bottles IR Gun ID: <u>C</u> IR Gun Correction Factor: <u>0.2 °C</u>			
Method of coolant: <input checked="" type="checkbox"/> Wet Ice <input type="checkbox"/> Blue Ice <input type="checkbox"/> Dry Ice <input type="checkbox"/> None			
Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>	3. If temperature of any cooler exceeded 6.0°C, was Project Manager Notified? PM was Notified by: phone / email / face-to-face (circle one).
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA <input type="checkbox"/>	4. Is the commercial courier's packing slip attached to this form?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA <input type="checkbox"/>	5. Were proper custody procedures (relinquished/received) followed?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA <input type="checkbox"/>	6. Were sample IDs listed on the COC?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA <input type="checkbox"/>	7. Were sample IDs listed on all sample containers?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA <input type="checkbox"/>	8. Was collection date & time listed on the COC?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA <input type="checkbox"/>	9. Was collection date & time listed on all sample containers?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA <input type="checkbox"/>	10. Did all container label information (ID, date, time) agree with the COC?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA <input type="checkbox"/>	11. Were tests to be performed listed on the COC?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA <input type="checkbox"/>	12. Did all samples arrive in the proper containers for each test and/or in good condition (unbroken, lids on, etc.)?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA <input type="checkbox"/>	13. Was adequate sample volume available?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA <input type="checkbox"/>	14. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	NA <input type="checkbox"/>	15. Were any samples containers missing/excess (circle one) samples Not listed on COC?
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	NA <input type="checkbox"/>	16. Were bubbles present >"pea-size" (¼" or 6mm in diameter) in any VOA vials?
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	NA <input type="checkbox"/>	17. Were all DRO/metals/nutrient samples received at a pH of < 2?
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	NA <input type="checkbox"/>	18. Were all cyanide and/or sulfide samples received at a pH >12?
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	NA <input type="checkbox"/>	19. Were all applicable NH ₃ /TKN/cyanide/phenol/BNA (<0.2mg/L) samples free of residual chlorine?
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	NA <input type="checkbox"/>	20. Were collection temperatures documented on the COC for NC samples?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA <input type="checkbox"/>	21. Were client remarks/requests (i.e. requested dilutions, MS/MSD designations, etc...) correctly transcribed from the COC into the comment section in LIMS?
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	NA <input type="checkbox"/>	22. Was the quote number used taken from the container label?
Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)			
Sample(s) _____ were received incorrectly preserved and were adjusted accordingly in sample receiving with _____ (H ₂ SO ₄ , HNO ₃ , HCl, NaOH) using SR# _____			
Sample(s) _____ were received with bubbles >6 mm in diameter.			
Samples(s) _____ were received with TRC >0.2 mg/L (If #21 is No) and were adjusted accordingly in sample receiving with sodium thiosulfate (Na ₂ S ₂ O ₃) with Shealy ID: _____			
SC Drinking Water Project Sample(s) pH verified to be > 2 by _____ Date: _____			
Sample(s) _____ were Not received at a pH of < 2 and were adjusted accordingly using SR# _____			
Sample labels applied by: <u>SHE</u> Verified by: _____ Date: <u>10/26/16</u>			

Comments: excess volume received for PSS-SW-04 & not PSS-SW-05